MARINE CORPS Gazette

NOVEMBER, 1945 30c

WAKE SURRENDER

BY COL W. L. J. BAYLER

THIS MONTH'S COVER

IT took nearly four years and the full fighting strength of a mighty nation to travel the long, hard road back to Wake Island and to make good a pledge to the gallant men who fell in its defense. The victory for which many marines gave their lives seemed more complete when our flag was raised again over that tiny atoll. The honor of accepting the Japanese surrender on Wake was rightfully given to the Marine Corps, as told in the opening pages of this month's GAZETTE by Col Walter L. J. Bayler. Few men in history have been granted the privilege of witnessing the beginning and the end of such a story. Taking over his post as commander of Wake Atoll, Comdr William Masek said, simply: "I accept this proudly, because this is Wake Island . . . not any island. It was here that the marines showed us how."

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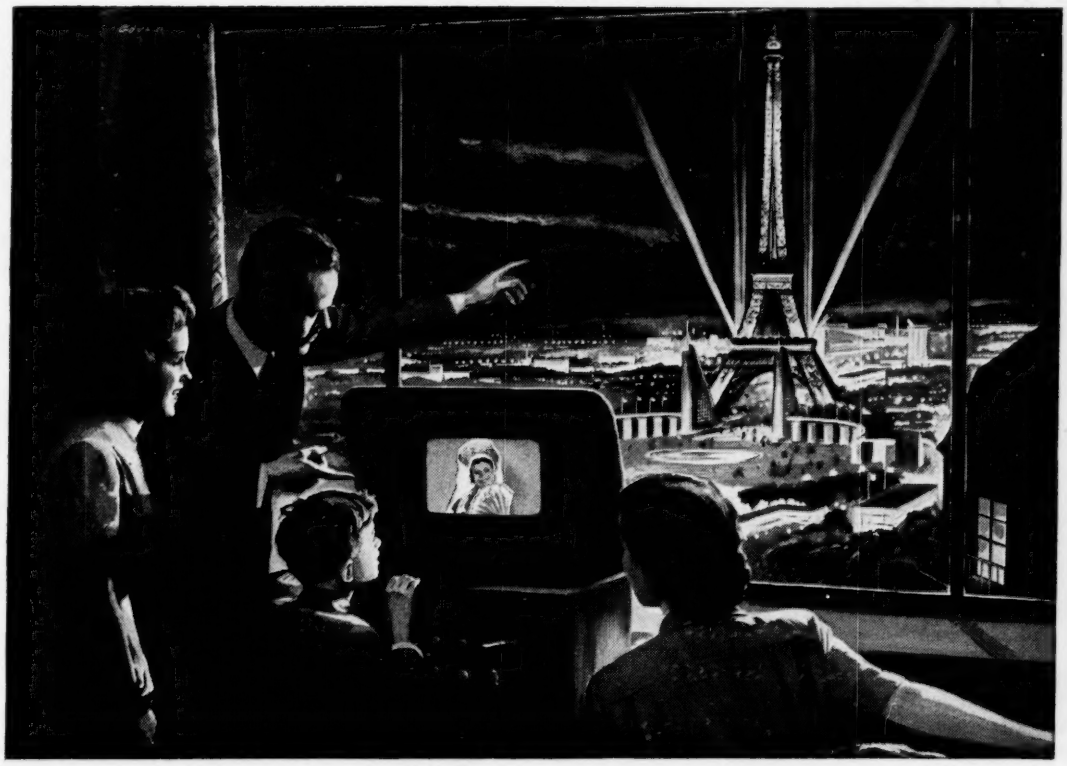

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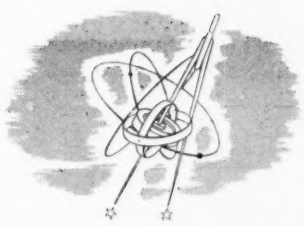

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THE PROFESSIONAL MAGAZINE
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Gazette

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170th Anniversary Message

TO all officers and enlisted personnel, I wish to extend greetings and congratulations on the occasion of the 170th anniversary of the Marine Corps.

This anniversary marks the climax of a year in which your achievements have played a full part in the winning of victory and the gaining of the new peace. You personally, and the Marine Corps as a whole, will always have reason to look back upon this most fruitful year of service with great pride.

In observing this anniversary, let us include prayers of thanksgiving for the final triumph of the cause for which we have fought. God has truly favored the bold and stout of heart. We shall never forget the comrades who gave their lives that victory might be won. They fell going forward, driving before them in retreat forces of aggression which had sought to destroy our country and all for which it stands. We shall keep those valiant comrades alive in our memories throughout the years to come.

The Marine Corps looks to the years ahead solemnly determined to defend the peace with the same high devotion with which the armed forces have defended the nation at war. And I am confident that, in uniform or out, you will join in that determination, resolved that this new and promising peace which you have helped so much to gain shall endure.

—General A. A .Vandegrift
Commandant of the Marine Corps

Wake Surrender

By Col Walter L. J. Bayler

EDITOR'S NOTE: *Col Bayler (then a major) was the last man off Wake Island before the Jap attack there in December 1941. Currently serving on the staff of MajGen James T. Moore, USMC, commanding general of Aircraft, Fleet Marine Force, Pacific, Col Bayler was given dispatch orders to be present at the signing ceremonies when the Japanese garrison at Wake Island surrendered to our forces.*

IT was 4 September 1945, a day which will be a hallmark in the history of the Marine Corps in World War II. A task force of three destroyer escorts was ploughing northward from Kwajalein. At 0700 officers on the bridge of the USS *Levy*, flagship of the force, could make out a low surf-beaten green island dead ahead. On the south beach of the island were the hulks of two Jap destroyers, and nearby was the wreckage of a Jap freighter. The usual flock of birds hovered over the tiny spit of land. This was Wake Island and a small force of marines had returned to restore the territory to U. S. sovereignty.

The story of the defense of Wake in December 1941 by a detachment of the 1st Defense Battalion and VMF 211, a handful of men who stood off vastly superior enemy forces for days before being forced to surrender, is too well known to need repetition here. (See Col Bayler's book, *Last Man Off Wake Island.*) But in recognition of that epic struggle it was deemed appropriate that the Marine Corps should accept the surrender of Japanese forces on the atoll.

In August, when the Nips were willing to admit they were beaten, the Jap commander of Wake notified Rear Admiral W. K. Harrill, commander of the Marshalls-Gilberts Area, that he would capitulate as soon as surrender documents were signed at Tokyo. Thereupon a plane was sent from the Marshalls to Wake to drop a weighted letter containing surrender terms and instructions which the Nips were expected to carry out.

The party designated to accept the surrender of the Jap garrison on Wake assembled at Kwajalein and set out aboard three destroyer escorts, the USS *Levy*, the USS *Le Hardy*, and the USS *Greer*, at 1535 on 2 September 1945. Heading the surrender party was BrigGen Lawson H. M. Sanderson, commanding general of the Fourth Marine Aircraft Wing. Others included Col T. J. Walker, USMC, LtCol W. D. Robertson, USMC, both Fourth Wing staff officers, and Comdr William Masek, USNR, prospective commander of Wake Atoll.

When the task force arrived at Wake, one DE was directed to remain out at 10,000 yards to serve as cover while the other two ships edged in to the beach. During hostilities this would have been hazardous, since the Nips had heavy naval guns on the beach which could outrange anything we had aboard. Even now there was no way of knowing that the Japs would carry out their instructions.

Apparently, however, the Japs were ready to quit. When the ships were within 500 yards of the channel entrance, two small boats put out from shore. One of them had a large white flag in the bow and we could clearly see uniformed figures aboard. The surrender party in the boat flying the white flag came along side. Looking over the side we saw a dignified officer seated on a blue robe in the middle of the boat, arms folded akimbo. He was dressed, from his shiny black leather knee boots to his green felt cap with anchor design, in what must have been his best uniform. Flanking him were other officers equally well garbed. None wore side arms.

As the boat touched the side of the *Levy*, known as the *Little Missouri*, the centrally seated figure jumped out nimbly and scrambled up the ladder. He paused at the head of the ladder to salute the colors and then, doing a half right face, snappily saluted the officer of the deck. His retinue followed suit. In a short time they all were seated around a table on the boat deck. Our party, with General Sanderson, sat down at the same table.

The Japs were identified and introduced as follows: Rear Admiral Shigematsu Sakaibara, Japanese Navy, commander of Wake Atoll; Col Shigeharu Chikamori, Japanese Army; Maj Masao Yoskimiju; LtComdr Soichi Tachibarra; Lt Paymaster P. Hisao Napasato; and Lt Kenjiro Chiba.

At 0819, the Jap admiral touched General Sanderson's pen to the surrender terms and started making hieroglyphics which were assumed to be his signature. This was verified by our interpreter.

Incidentally, it was explained to the Japs that our interpreter was a Nisei, a sergeant named Larry Watanabe. This was done because once a

The "last man off Wake Island" was first to step ashore after the Japs' surrender.

POW had been used as an interpreter and when the Japs discovered this they closed up like clams.

During consideration of the surrender terms, which were in both English and Japanese, many details came up which consumed a great deal of time. Also it appeared that a simple one-syllable word in English may require an entire phrase in Japanese. For instance, on many occasions we heard a sound like "Warri-Warri-a-Wa." When we asked the interpreter what that meant, he looked surprised and explained that it meant "we."

After the signing it started to rain. As there still were many questions we had to ask the Japs, everyone adjourned to the wardroom below, about 30 persons crowding into a room that normally would be filled by 14.

During the interrogation cold orange juice was passed around. There was much bowing on the part of the Nips as they accepted what probably was their first fruit juice in months. It will be recalled that last summer when a Jap hospital ship was permitted to evacuate patients from Wake many of them were found to be suffering from malnutrition, particularly beri-beri.

THE Nips revealed to us and the correspondents present the following information: The Japs had remaining only 14 days rations (at a reduced level). Rats were hard to find since many had been eaten. The only water source on the island was rain. There were 1,260 Japs on the island, about equally divided between army and navy forces. Breech blocks had been removed from heavy guns, small arms and ammunition gathered into scattered piles in accordance with the provisions of the letter dropped earlier. About 140 Japs were killed in the final assault on the island in December 1941. That of the original landing force only about 20 remained. The others had been evacuated or had died. The Japs were uncertain of the number of U. S. Marines and Navy personnel killed during the final stages of the fight for Wake but they were believed to number about 57.

Finally, when the questioning was over, the Japs took their leave. However, we retained one, Lt Chiba. He was to stay and conduct us ashore.

Later in the morning I joined a party of marines and sailors, assembled in two boats, who were to go ashore and erect a steel pole for the afternoon flag raising ceremony. As our boat snaked against the current through the channel, we all had the feeling that every bush hid a nest of curious Japs.

We passed two pillboxes of concrete, a 40mm AA gun mount, and, just as the bend to the turning basin was reached, we could see the remains of what used to be the 25,000-gallon tanks near the channel. Wreckage of other tanks and hundreds of burned-out gasoline drums were everywhere. Ahead lay the pier, a broken-down assortment of planks, corrugated sheet iron, a small weather beaten boathouse. Standing around were about a

The Jap admiral revealed Wake's defenses.

half dozen uniformed Japs, in blouses, wrap leggings, gloves and green felt caps. As we jumped ashore we were greeted by stiffly saluting Japs.

The party went about its business of locating a suitable flag pole site. After a look around, several of us returned to the *Levy*, by this time moored to one of four buoys off the channel entrance and only about 500 feet off shore.

Word was received at about 1300 that the pole was ready. In about 10 minutes our party proceeded ashore.

The Jap admiral met General Sanderson at the pier and marched with him to the site of the pole. General Sanderson's staff came next, followed by the color guard and the color bearers. Besides the national ensign, the standard of Aircraft, Fleet Marine Force, Pacific, was carried. Then came two marines to hoist the colors. In the rear were 30 American sailors in whites, wearing leggings and carrying rifles at the shoulder. It was all the armed might we could muster with rifles, but it was enough and it looked mighty good.

At 1345, General Sanderson read the proclamation declaring the island of Wake and Wake Atoll to be from that moment under the control, ownership and sovereignty of the United States of America. It further decreed that as a symbol of this, the American flag be hoisted. *Colors!* So, with the white-garbed sailors in three ranks presenting arms, our staff at the right hand salute on one side of the pole, the Jap contingent in two ranks facing us on the other, also at attention and right hand salute, our colors slowly and gracefully rose to the accompaniment of the sharp clear notes of the bugle. When the colors were firmly two-blocked, the three DEs cut loose with a noisy 21-gun salute to the colors and the restored U. S. possession.

The general called Comdr Masek front and center and read the order detailing him the Atoll

Commander. Then followed a tour in four assorted Japanese and American cars and trucks. One of them was a Chevrolet wagon, undoubtedly a relic of American occupation of the island. It was one of two cars that did not break down. The one that carried our party was a Jap vehicle and suffered two complete breakdowns along the way.

That tour was a revelation. The entire island had undergone a severe face-lifting. The Japs had made a fortified Tarawa or little Saipan out of Wake. Everywhere we looked there were signs of tremendous work, great expenditures of time, money and materials. There were pillboxes, blockhouses, gun mounts of concrete and beautifully constructed airplane revetments made of cut coral rocks and concrete. These revetments were all along the south side of the main east-west runway, and also on both sides of the bomber disposal area on the north of the cross runway. The runway was in good condition.

Rounding the bend at Peacock Point, with its guns, we passed AA installations on the beach side of the road, dugouts, range finders, wrecked buildings, two with radar on the roof. We passed the CP next to the wooden bridge leading to Peale Island and its attendant Jap sentry at the entrance.

Peale Island was just a series of mounts, tank traps, beach installations and wire. There were tank traps all over the island, cuts about eight feet deep and probably ten feet wide with high parapets on each side. We passed many duds, all shells, each marked with a white flag on a small staff. It was apparent from what the touring party saw that the Japs had suffered little damage from the sporadic treatment our forces gave them. The admiral did state that his officers' quarters had been destroyed.

On this same tour we saw the remains of three of our valiant F4F-3s, practically concealed by small trees growing around and between them. They are little more than junk now, but their star insignia still is plainly visible. There were also two Zeros lying crumpled along the runway.

The terrain of the island now is greatly changed by the dense foliage. Where there once was a blade of grass there now is a scavola bush 10 to 12 feet high.

THE admiral asked us to come into his quarters. This house would be a good one in any operating theater. Plain but comfortable, it sported rattan furniture taken from the three civilian sets of quarters once on the island and once occupied by Dan Teters, civilian contractor boss, and two other persons. The heavy table cloth of purple velvet came from the *Sawu Maru*, the freighter wrecked on the beach. Other furniture and some guns also had come from this ship.

He motioned us to a seat and instantly a cherubic, rotund Japanese lad entered, carrying a large tray with cups and saucers of steaming liquid. The admiral explained that it was coffee, but it tasted like sweet chocolate to several of us. One of our party asked him how long it had been since he had sugar and he replied, "Two years." Yet this drink was sweet. He went on to say that the Japanese always save up for the last occasion and that this was it.

During this short stay in his quarters the admiral left the room for a moment and returned carrying a sword rack of mahogany on which there was a very well made samurai sword, silk sash, cord and sword case. This, he explained, was his own sword, which had been in his family for generations. But now he wished that General Sanderson would convey it with his respects to Admiral Harrill. He very slowly and hesitatingly wrapped up his sword, placed it on the rack and pushed it across the table to the general. During that ceremony one Jap naval officer had tears in his eyes. It probably was the first time he ever saw a Japanese give his sword in surrender.

THEN the entire party headed back to the pier. But the cameramen and some correspondents wanted to see the site of the old marine camp and other points of interest. So we all went back and located the old camp site. The evaporator plant and laundry buildings were a sorry pile of scrap. The pole on which our flag fluttered defiantly for 15 days and nights still was standing, but it had been struck by a large caliber bullet and was leaning precariously. The observation tower on which Maj James Devereaux's men used to peer into the horizon and distant skies still stands in skeleton form, one steel leg shorn from the base. The camp site is overgrown with weeds, bordered with trees and scarred with tank traps. We saw five Japanese tanks in one tight huddle on the old camp site.

Next we found the underground hangar where Lt John F. Kinney and TSgt William J. Hamilton worked like beavers to keep VMF 211's planes flyable. It now is stocked with Jap aircraft spares, tools, and assorted articles needed for aircraft maintenance. Nearby was one of our old personnel dugouts, our homes, left intact. The rest of them, and there were about nine, had been covered up.

That completed, we found the admiral still waiting at the boat house. He had a table prepared and on it were numerous glasses of wine, of which all of us made good use. It was a good refresher before going back to the ship.

Next morning, early, a transport plane circled the island. It was our transportation back to Kwajalein. All hands reported and all were in readiness for the take-off. The field appeared to be in excellent shape. No bumps were experienced as the plane gained speed during the run. As we lifted off the ground, we all looked back upon Wake, once more under the Stars and Stripes. **END**

Withdrawal from the Yalu

Tactical errors in retrograde action by the Russians back in 1904 led to the loss of a campaign and enabled the Japs to begin their climb to world power.

By LtCol Thomas J. Colley

AUTHOR'S NOTE: *The study of retrograde movements, which may be classed as retirements, withdrawals from action and delaying actions, is usually uninspiring to attack-minded marine officers. However, just as in the case of defensive tactics, the mission of executing a retrograde movement may be temporarily forced on a command at any time. When that time comes, unit commanders and staff officers must be sufficiently familiar with the basic tactical principles to avoid the disasters which surround such admittedly critical and difficult operations. Furthermore, we must know retrograde tactics so that when an outfought enemy adopts them, we can close with and destroy him regardless of his efforts to delay us or to save his force by withdrawal and retirement. This article, taken from an historical example presented to the Command and Staff School, delineates against the tragic backdrop of the Manchurian War of 1904-5 many of the tactical principles on which the Russian success or failure in that campaign depended, principles which apply just as well today.*

FORTUNATELY LtGen Zasulich did not realize the far-reaching results of his decision at Tientzu that night of 30 April 1904. The merest glance into the future, showing a demoralized army losing a whole campaign because of an initial tactical failure, and the prestige of the white race in the Orient first wavering on the brink of its dizzy plunge through the years to the nadir of Pearl Harbor, would have given him little peace of mind. For he had just disregarded the counsel of his chief-of-staff and senior subordinate to retire to a secondary delaying position in furtherance of his mission with these words: "The general commanding the detachment forbids the troops to abandon their positions on any pretext whatsoever."

The military occasion which gave rise to this decision so critical in world history was the initial ground engagement of the Russo-Japanese War, the Battle of the Yalu River in Korea. It was here that the Japanese gained their first major victory in ground combat against the armed might of a first-class Western power, giving rise to their conviction of superiority over the white man.

The Russian troops in this battle fought, as the troops nearly always do, bravely and well. The disaster which befell them at the Yalu was due chiefly to the disregard, by certain high officers, of the more basic of the tactical principles underlying retrograde action. Lesser factors were (1) the underestimation of Japanese tactical ability in a war of maneuver, and (2) the commander's unwillingness to understand or execute orders requiring him to evade close engagement with superior forces, but to fight a delaying action. Let us examine these shortcomings of command in detail. (Refer to Map 1).

The background of the situation in the Far East when this war broke out in 1904 was briefly this: Russia had been establishing her interests in Manchuria, blocking Japanese economic expansion in that vast, nearby area. Russia had extracted a long-term lease from the Chinese government for the excellent warm-water naval base at Port Arthur, and the surrounding Kuantung Peninsula. The Russians had also acquired from the Chinese the rights to run the Trans-Siberian Railway into both the Port Arthur and the Vladivostok naval bases via Harbin, rather than over the disadvantageous original route via the Amur River valley to Khabarovsk. A wide strip on each side of the railway via Harbin had also been granted.

The Japanese, their expansion thwarted, had built for ten years toward the day when they could challenge Russia in Manchuria. This day came on 6 February 1904, when diplomatic relations were severed. Two days later, Japan attacked without a declaration of war, which over the years has become a Japanese habit.

Admiral Togo, commanding the Japanese Fleet, struck first at Russian fleet units in Port Arthur and Chemulpo, just as his successor struck 38 years later at the United States fleet in Pearl Harbor. In two days the Russian Asiatic Fleet was crippled. A total of three BBs and four CLs were severely damaged, three CLs and one gunboat being destroyed.

Advance elements of the Japanese 12th Division, prepared well beforehand, landed at Chemulpo in Korea on 8 February, advanced on Seoul and quickly took over Korea as a base of operations.

The remainder of the 12th Division disembarked and immediately moved towards the Yalu, 200 miles away. A thaw reduced the road to a bog, and it was not until 18 March that the 12th was at Ping-Yang. Here it was joined by the 2d and Guard divisions, which had meanwhile been able to dis-

Map 1: Strategic situation prevailing at opening of Russo-Japanese War in 1904.

embark at Chinampo. Thus was the First Army assembled, under General Kuroki. (Remember that a Japanese Army roughly corresponds to our Corps.)

A quick glance at the big picture in *late April* now reveals the following: (1) Admiral Togo was blockading the remainder of the Russian Fleet in Port Arthur. (2) The First Army had arrived at Wiju on the Yalu River, having been in contact with a Russian cavalry screen for a month as it advanced. The mission of the First Army was to invest Port Arthur, reduce this main base of the Russian Fleet, and either to force the fleet to sortie in the face of Togo's ships, or destroy it in the harbor. (3) The Second Army, under General Oku, in transports, lay close at hand, off the mouth of the Yalu, prepared to assist the First Army, or, if not needed for that, to land closer to Port Arthur, at Pi-tzu-wo. (4) Meanwhile, the Russian problem was one of assembling forces in this distant theater and delaying Jap action until numerical superiority on land and sea had been established. The distance via the Trans-Siberian Railway (for ground forces) or via Suez (for the Russian Fleet) was great, so the delay desired was a matter of about three months, for the ground forces.

Able and justly-famed General Alexei Kuropatkin had arrived at Mukden and taken command of the Russian Manchurian Army on 28 March 1904. The command setup at this time was interesting and had not a little to do with military failure, due to its basic weakness of divided authority. Admiral Alexeieff was the Viceroy and the senior military officer in Manchuria, with headquarters at Harbin, a great distance from the scene of operations. General Kuropatkin, while widely experienced and quite able, had the one weakness of never leaving the "how" of execution of orders to

the judgment of subordinates, as long as he had telegraphic communication. This weakness was mitigated somewhat, as we shall see later, by the fact that not all of his subordinates could be trusted to make sound decisions.

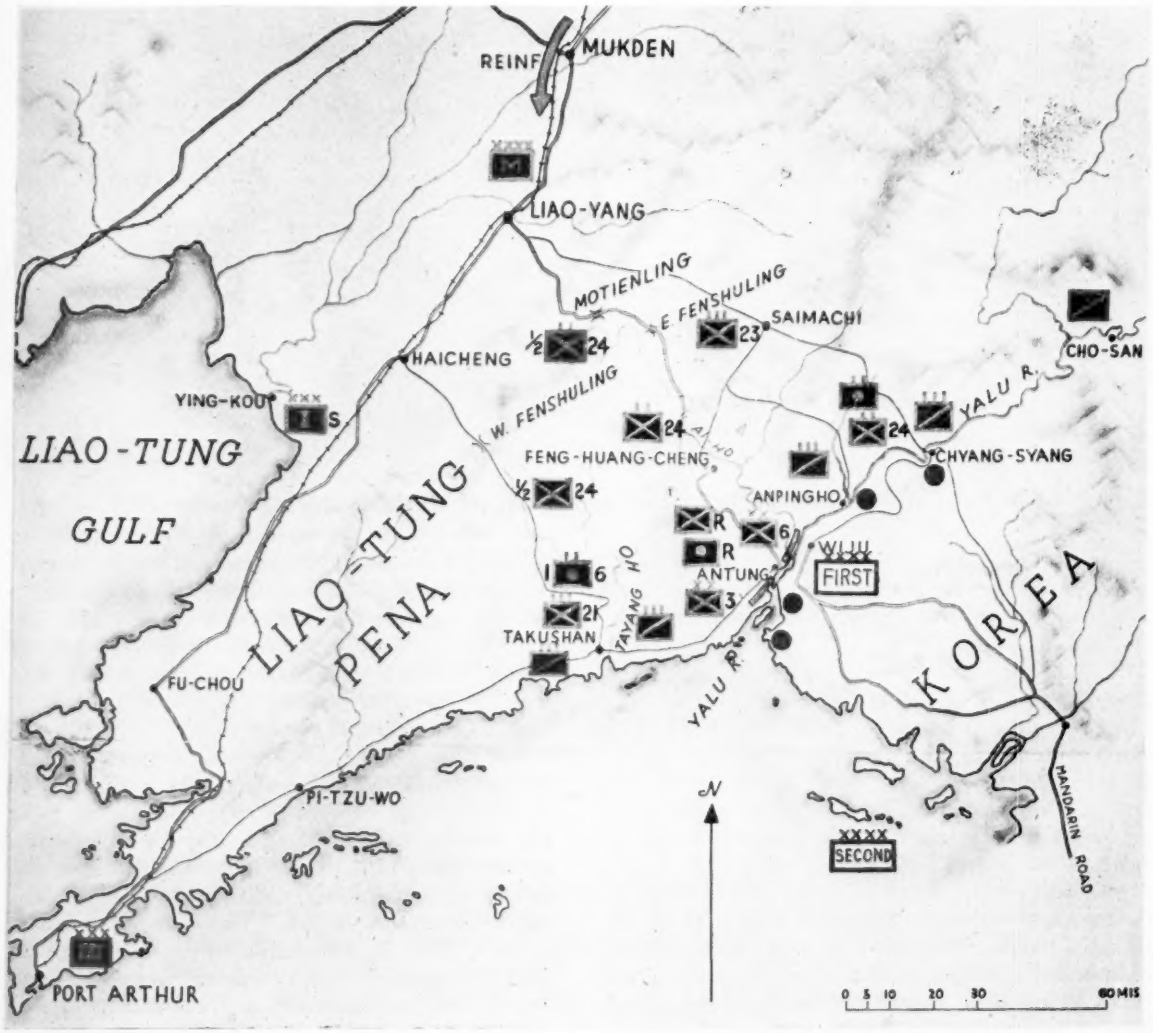
Assuming command of the Manchurian Army, General Kuropatkin found that East Siberian garrison troops were the first available to perform the security missions for the concentration of the army, which was to be at Liao-Yang, just south of Mukden.

To delay the advance of the Japanese First Army, General Kuropatkin formed what he called the Eastern Detachment. It contained the 3d and 6th East Siberian divisions (square), and four regiments of Siberian Cossacks (cavalry), which had made the initial contact with Kuroki's First Army and were now on the Yalu front. Basic elements of the 3d and 6th divisions were:

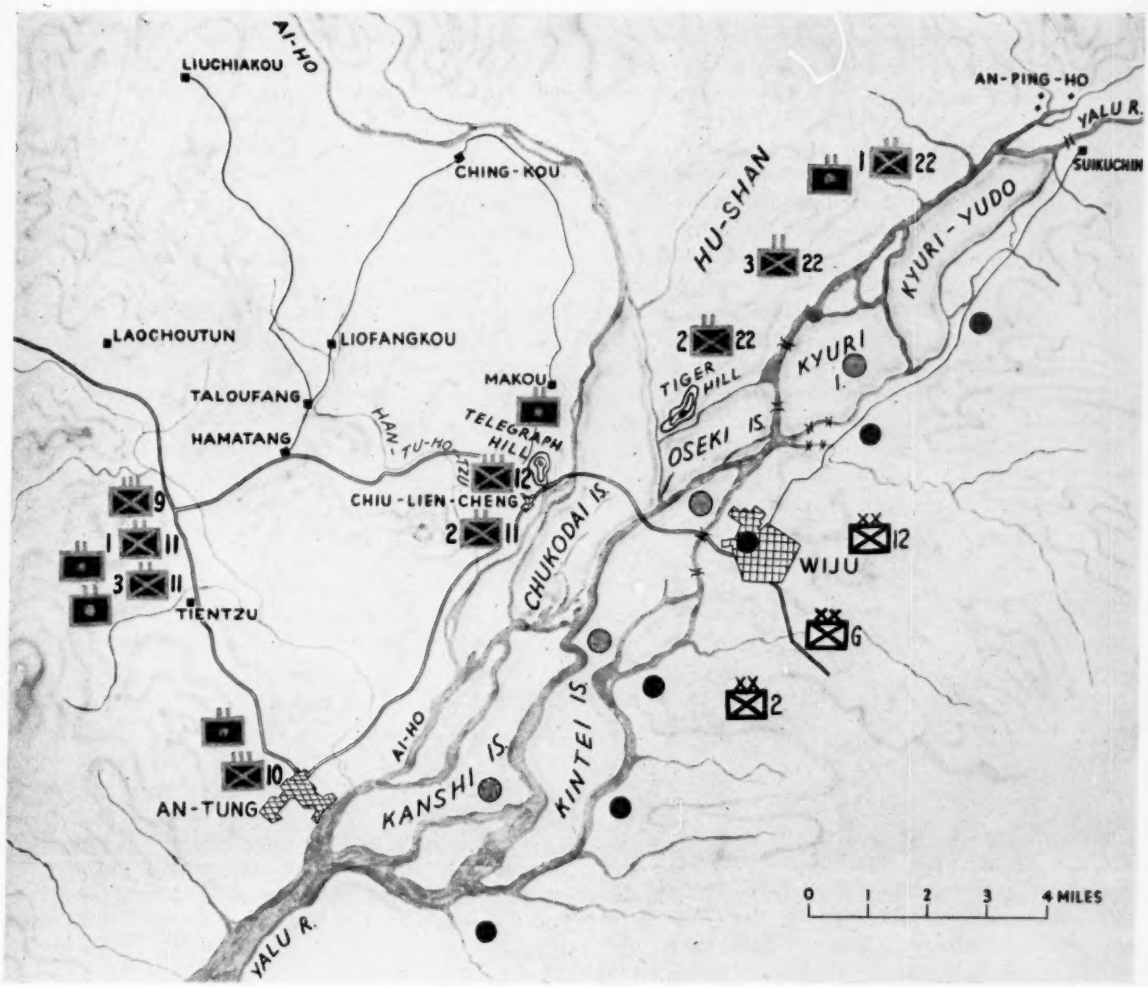
3d E.S. Div	*6th E.S. Div*
9th E.S. Inf	21st Inf
10th E.S. Inf	22d Inf
11th E.S. Inf	23d Inf
12th E.S. Inf	24th Inf
3d E.S. Artillery Brigade (3 "Btys" of 8 guns, which we shall call Bns)	6th E.S. Artillery Brigade (same as 3d Div)
Machine Gun Company	Machine Gun Company

LtGen Zasulich, newly arrived from Warsaw, took over the detachment on 22 April, and found the situation on the Yalu to be as shown on Map 2.

(a) The River Yalu runs generally southwest to the Bay of Korea, and formed at that time the boundary between Korea and Manchuria. It is fed by the Ai-Ho River at the town of Wiju. The valleys of both rivers are for some distance about



Map 2: Jap First Army opposes Eastern Detachment on Yalu River front on 22 April.



Map 3: Detailed situation at Chin-lien-cheng on the Yalu River to 25 April 1904.

Wiju flat and sandy, with little or no vegetation. At Wiju, the valley is 3½ miles wide. Shallow gunboats were able to come up as far as An-tung, against a swift current. The terrain rises sharply in steep hills and ridges to both the eastward and westward of the river. The major ridge-line of the Liao-Tung Peninsula, the Fen-shui-ling Mountains, lies between the Yalu Valley and the concentration point—Liao-Yang.

(b) General Mischenko, with two Siberian Cossack regiments, the 1st Verkhne-Undinsk and 1st Chita, supported by the 21st Infantry and one battalion of artillery (both from the 6th Division), was disposed along the coast protecting against amphibious envelopment of the Yalu defense.

(c) On the left flank, Col Trukhin, with two Siberian Cossack regiments, the 1st Argun and 1st Ussuri, plus a battalion each of the 24th Infantry and of artillery (both from the 6th Division), watched the Yalu from An-Ping-Ho to Chiang-siang and beyond, with a detachment as far away as Chosan.

(d) The 23d Infantry (6th Division) was at Sai-machi, barring the road from Chiang-siang to Liao-Yang, the point of concentration.

(e) The 3d and 6th East Siberian divisions, less the above detachments, covered the center, a stretch of about 14 miles of the Yalu, from the vicinity of An-tung to the nose between the Yalu and the Ai-ho with three sector garrisons, a strong reserve at Tien-tzu, four miles to the rear, and a battalion of the 24th Infantry (6th Division) along the road to Liao-yang, guarding and repairing it. Incidental to this picture of the Eastern Detachment, the I and III Corps were as shown, protecting Port Arthur itself, the landing area near Yin-kow, and the point of concentration at Liao-Yang.

It is interesting at this time to examine the mission of the Eastern Detachment as expressed in Kuropatkin's orders of 18 April.

"The hostile army reported towards Wiju comprises the Guard, the 2d, the 12th, and perhaps the 6th Division. Further, the 1st and 3d divisions, which are known to have left Japan, will very likely disembark at the mouth of the Yalu.

"The *mission of the Eastern Detachment* is to

make use of the advantages of the ground to check the enemy in his passage of the Yalu, and again on the Fen-shui-ling chain, and also to determine his strength, dispositions, and lines of march.

"Avoid any decisive engagement against superior forces, so as not to risk defeat before the junction of the detachment and the main army.

"In the event of its falling back from the Yalu, the principal group of the detachment will retire on the Mo-tien-ling and Fen-shui-ling west passes, taking care to bar the flanking passes against turning movements, especially towards the south."

It is obvious that these orders and the general situation called for delaying action. Its purpose in this case was, of course, to gain some four months' time for the concentration of the Russian Manchurian Army. In this connection, Paragraph 734 of FM 100-5 states, in part: "The purpose of delaying action is to gain time while avoiding decisive action. . . . Delaying action may be used in the opening phases of battle to gain time for the unified employment of the entire command."

Of the three forms of delaying action prescribed in Paragraph 735,* i.e., offensive action, defensive action in one position, or delaying action in successive positions, the one called for in this case was, of course, the latter. The factors which determined this were two: the enemy, with shorter lines of communication, could be expected to mass superior strength against the Eastern Detachment before the Manchurian Army could assemble and reinforce; there were, happily, approximately 125 miles of rugged terrain between the Yalu River and the concentration area at Liao-Yang, over which the detachment could delay. The first of these factors made delay in successive positions mandatory, the second made it practicable.

The initial position and the rearward terrain for the delaying action to come could hardly have been better, for it had nearly every asset noted in the vast experience of the Field Service Regulations. For example, let us check against Paragraph 736*: "Skillful use of terrain has a decided influence on all delaying operations. A series of parallel ridges across the lines of hostile advance (we have them between the Yalu and Liao-Yang), unfordable streams, swamps, lakes and other obstacles on the front and flanks (the Yalu and the sea), high ground with good observation (the occupied west bank of the Yalu) and with good fields of fire at long range (three to four miles out across the islands toward Wiju), concealed routes of withdrawal immediately behind delaying positions (the Mandarin Road toward the northwest) and a good road net (this is not favorable) favor the execution of delaying action."

The advantages of terrain far outweighed the disadvantages of (1) the restricted road net, which would suffice with careful planning of movement, and (2) the danger of seaborne envelopment, for although the Japanese Second Army was afloat off the mouth of the Yalu, Mischenko could be expected to take a heavy toll if that Army tried to land in his sector.

The disposition of troops was, in general, sound enough for the contemplated action. As we have seen, the strength was disposed in the center, covering the best and shortest route to Liao-Yang. The mobile troops of that time, the Cossacks, strengthened with artillery and infantry reserves, covered the flanks of the main position, extending far enough to protect all eastward approaches to Liao-Yang. The strength of the detachment was reasonably suitable for the mission. But if we look closer, we find a tactical fault in the disposition for delaying action: there is no prepared position at suitable distance to the rear to which a retirement or withdrawal can be made. Further, the general reserve, posted rather well for a determined defense in its assembly area at Tien-tzu, was neither organizing nor deployed upon a secondary delaying position.

Paragraph 751* flatly says: "In fighting a delaying action, some troops are disposed on the rear position to cover the withdrawal from the positions in front." And although Paragraph 646* speaks in terms of the modern counterparts of the cavalry of 1904, it reinforces the above quotation thus: "To order a withdrawal to an unorganized and unoccupied rear position in the face of attacks by mechanized forces . . . invites disaster for the entire command."

LET us look back at the tactical situation at Antung and Wiju during the last week in April 1904. (Map 3 is an enlargement of this part of Map 2.)

First, terrain. Note the broad aspect of the valley, with the many swift river channels separating the several flat sandy islands, barren of any concealment. The Hu-shan Mountains, between the Ai-ho and Yalu, terminate in Tiger Hill, a dominating piece of terrain. Another important terrain feature just opposite on the west bank of the Ai-ho is what the Japs called Suribachiyama, or Telegraph Hill. It is some 240 feet high, devoid of concealment. In general, the slopes up the west bank hills are steeper than those of the east bank.

By 25 April, the whole Japanese First Army (Guards, 2d and 12th divisions) had assembled at the Wiju area. By day they employed the ruse of attempting to bridge the Yalu to their front, drawing Russian fire and attention to that area. From time to time, the Russian artillery fired upon any Japs who showed themselves on the islands below. To this there was no reply. By night the Japs reconnoitered for crossing sites, emplaced artillery in camouflage to the front, and prepared their mo-

(*Continued on page* 55)

* *All asterisk-marked paragraphs refer to FM 100-5, Field Service Regulations (Operations), dated 15 June, 1944.*

A periscope view shows a Jap hull joining thousands of sister ships beneath the sea.

Japan Went Down with Her Ships

By Capt Miles R. Browning, USN

The opinions or assertions contained in this article are the private ones of the writer and are not to be construed as official or as reflecting the views of the Navy Department or the naval service at large.

JAPAN'S life blood of empire flowed in her shipping. After Pearl Harbor, her veins were drained surely and steadily as a result of our unremitting submarine attrition and of her own prodigality in exposing her vessels. Today, she stands totally defeated, the victim of hopeless anemia, facing inevitable eclipse as a world power. All hope of ultimate victory for the empire went under in the swirling waters around the thousands of her hulls which disappeared beneath the surface of the sea.

Japan's war machine had to be fed from outlying resources. The home islands themselves—comprising her entire territory a scant 70 years ago—are poor in minerals and foodstuffs. A substantial portion of her indispensable rice must be brought in from the outside. Fish—a major and vital factor in the national diet—must come from the deep-sea fishing banks, of which the most important lie several hundred miles east and north of Tokyo. In the categories of metal ores and petroleum products, her domestic production comprises only a small fraction of the minimum required to sustain her in war. Strategic materials must come from the outside. It is this fact which provides the key to her successive seizures and rapes of her weaker neighbors since Perry opened her doors and her eyes in 1854; it is this fact, still, which underlies her present collapse; and it is this fact, also, which made her shipping her Achilles heel.

Nippon's career, like that of Germany since the turn of the century, illustrates once more the truth of the aphorism: "Give a scoundrel enough rope and he'll hang himself." Hitler accomplished this

favor to society when he plunged Germany into the Russian invasion and commenced weaving the 2,000 miles of hemp necktie which figuratively graced his neck and that of his empire on VE day. Tojo obligingly emulated the performance of his European partner when he extended the positions of Japan beyond the capacity of her shipping to support. One interesting sidelight on these parallel national suicides lies in the fact that both the principals had spotlighted before them the record of history to demonstrate the inevitability of their ultimate disaster. Hitler was intimately familiar with the story of Napoleon, whose path he followed into the abyss; Tojo not only knew the story of Russia at Port Arthur and Tshushima, but also Japan herself, in 1905, had reaped the spoils of St. Petersburg's inability to support her over-extended position in Eastern Asia.

THE Japanese, more than any other nationals on the face of the earth, are a seafaring race. That they should have committed, in rapid succession in World War II, the twin fatal mistakes of first underestimating the shipping they would need and then wasting inexcusably what they had, must go down in the record as one of the great travesties of their criminal career as a world power. Japan's blunders in this respect are the more amazing in the light of her quite consistent and correct appraisal of the fundamental importance of shipping to us—her enemies—in the Pacific conflict. At Pearl Harbor, where she gambled on a quick knockout, she threw the main weight of her attack at our fleet units in preference to any other target. If she needed the evidence of the following months to vindicate her selection, it was forthcoming for all the world to see; we were hamstrung for nearly a year. Ever since, with only one important exception, her strategy was to direct her strikes against Allied shipping whenever and wherever it could be reached. When she was successful in so doing, we sustained our most grievous hurts. Okinawa provided the latest example in a long sequence of actions and campaigns testifying to this fact. The Kamikaze was eloquent testimony to the fact that she knew full well that who wins a Pacific war must do so with ships.

One important exception marred Japan's consistent record of sound strategy in this regard. That rather astonishing blunder was her inept—even stupid—employment of her submarines. Of these, at the outset of the war, she possessed a considerable number. Many of them were fine modern vessels, fast, heavily armed and capable of long-range patrols. Had she chosen—as in all logic she should have—to use these all out to interdict our flow of shipping from the mainland to Hawaii and the Southwest Pacific, it is a fair conclusion that our advance westward to her very doorstep would have been far slower than it was. Further, had she bent every effort to augment her submarine force while employing it in this manner—i.e., had she copied the German tactics in the Atlantic—we must inescapably have paid a price in men and time, many times over what our success actually cost us. Instead, she kept the bulk of her submarines, in the first year of the war, close under the wings of her battle fleet, mainly at Truk. Here, they were used, with few and relatively unimportant variations, as advance scouts and patrols for the sorties of her surface forces. A few—happily for us, far too few—conducted sporadic operations along our shipping routes. The accomplishments of these latter were almost negligible in interfering with our desperately needed flow of supplies into our Southwest Pacific bases; had their number been increased, the story would have been different. As for the majority of the submarines, which worked with the surface fleet, while they did succeed in sinking and damaging a few of our combatant vessels, their total contribution to the enemy effort fell so far short of their potential if properly used that our own high command uttered frequent and fervent prayers that they would not change their tactics.

Early 1943 saw us ready to take the offensive in the southwest Pacific. Before mid-year, our twin drives up the Solomon Islands chain and along the New Guinea coast were well underway. The Japanese ineptness in undersea warfare had contributed mightily to the accumulation of material needed to mount these advances. Enemy base after base was outflanked and cut off, and there then appeared a change in the enemy's submarine tactics, but it was not the one we had feared. Indeed, those prayers of our high command were answered, not by a continuation of the former ineffectual Japanese pattern, but by his adoption of tactics which were downright stupid. He commenced utilizing large numbers of his submarines for the primary missions of evacuating troops from, and bringing in token supplies to, isolated positions. We had already seen an illustration of this on a small scale during the later stages of the Guadalcanal campaign, but now, as enemy base after base was by-passed in our advance, the number of his subs so employed increased accordingly and their combat value fell off to nearly zero. As the year wore on, the Central Pacific advance through the Gilbert and Marshall Islands commenced, adding rapidly to the number of these "lost battalions" with which Tokyo attempted to maintain this dubious and costly line of communication. After the outflanking of Rabaul and Truk, Japanese submarines became, for the time at least, an almost negligible factor in our march westward.

Allied submarine employment in the Pacific, and particularly U. S. tactics, were the antithesis of this Japanese misuse of the type. The smoke was still rising from the wreck of the *Arizona* in Pearl Harbor when our first submarine war patrols entered the coastal waters of the Jap home islands.

Thereafter there was no letup; rather there was a constantly increasing number of our undersea cruisers patrolling the shipping lanes from the heart of the empire outward to every port in all the territory which had been seized. Japanese ships commenced going down at the outset and continued to do so in ever-growing numbers. Their shipping was attacked and decimated in the home waters, in the seas fringing the east coast of Asia, in the passages threading through the maze of the Netherlands Indies and along the routes to Truk, Rabaul and the bases in the mandated island chains. Even vessels in Yokohama Bay itself were not safe from attack. In desperation, the enemy diverted more and more of his woefully inadequate shipyard capacity to producing escort vessels. Small ships which could ill be spared were converted to the same end. More and more of his air strength was required for the work of anti-submarine patrol and escort of shipping. In addition to these costly measures, stark necessity drove him to the use of the convoy system —always a harsh blow to economy and efficiency, and doubly so to Japan in her straitened circumstances. Japanese shipyards were jammed with an ever-growing mass of crippled ships which had been damaged but not sunk. The enemy's capacity for new ship construction fell off rapidly to a small fraction of what he had counted upon when he struck the opening blow in December, 1941.

DURING 1942 and 1943, our submarines were the only weapon with which we could get effectively at the enemy's vital interior supply and communication lines. Raids by air, and occasionally by surface forces, could be and were made on the outer fringes of his ocean web, but the sustained pressure and the terrific drain of steady and relentless attack could only be exercised by the undersea force. The enemy empire lay like a sprawled octopus with its tentacles reaching east, south and west from the head in the home islands. To live and to maintain its war production, along each such outstretched tentacle there had to be maintained a maximum circulation: inward to the war plants at home, carrying the oil, rubber, metal ores and food sucked up from the rich fields of Borneo, Java, Sumatra and the other seized territory; then outward again, carrying supplies and replacements to the defense outposts and the operating bases overseas. Ships were the red corpuscles of this blood stream and along the thousands of miles of each such life line, the sea was being dyed red by the razor slashes of our sub patrols. The octopus was literally being bled white.

During this two-year period, the only measurable contribution which our air and surface forces could make to this campaign of attrition resulted from the Japanese exposure of his ships well out toward the outer perimeter of his defense lines and within striking range of our forces. Fortunately for us, the enemy proved to be surprisingly prodigal in this regard. As early as 1 February 1942, in our first offensive surface and air raid of the war in the eastern Marshall Islands, we found a fat bag of his ships in the lagoons at Kwajalein and Wotje and disposed of 17 of them. Later, during that same year and on into 1943, the enemy demonstrated his continued willingness to squander his irreplaceable bottoms by pouring hundreds of thousands of tons of both war and merchant vessels into the breach in attempts to retrieve his desperate situation in the Solomon Islands and in southeastern New Guinea. Our wholesale destruction of his relief convoy off Guadalcanal on 12 November 1942, and the annihilation of a similar expedition en route to Lae, New Guinea, on 2-3 March of the following year are classic examples of the fatal consequences which he suffered. While the overall total of enemy shipping which was destroyed by our air and surface elements during those first two years was far below that accounted for by the submarines, it was, nevertheless, a definite and valuable addition to their work—particularly so in that the proportion of Jap men-of-war so sent to the bottom or seriously damaged was relatively high.

With the dawn of 1944, our progress toward the Philippines was accelerated. Coincident with the seizure, early in the year, of Kwajalein and Eniwetok, the U. S. Pacific Fleet commenced the tactic of fast carrier task force raids deep into enemy waters. Hand in hand with this development, in April, MacArthur leap-frogged into Hollandia and Kenney's air force was soon established within striking distance of the waters of the eastern Indies. One immediate and significant result of these steps was the fact that now, at long last, our carrier and surface fleets and our shore-based air power could reach deep into the enemy ocean network. Jap shipping lanes were pushed westward into the coastal waters of the Philippine archipelago and the South China Sea. Not only did the number of enemy cargo vessels accounted for by our air and surface war ships increase, but the hunting became richer for our submarines incident to this squeezing together of the Jap's available routes. The year saw frantic effort on the part of Japan to further strengthen her escort and patrol forces. This effort had its repercussions at once in the resulting further reduction in her capacity to produce and maintain the cargo and personnel carriers which were needed to keep her war heart beating.

BUT this did not end the bad news which the year brought to Tokyo. In the latter half of the year, the Japanese fleet made two major sorties; the first in a desperate and futile attempt to relieve Saipan under assault by our Central Pacific forces; the second in a like mission at Leyte. These two ill-starred forays resulted in the loss of a major part of her heavy fleet strength and in a flood of first priority

repair work in her overstrained shipyards. Immediate reconditioning of her damaged men-of-war was a "must" ahead of everything else. Calamity piled on calamity and cabinet followed cabinet as Japan's war lords drank reluctantly the bitter draft of reality; they were sinking with their ships.

With our arrival and establishment in the Philippines in the winter of 1944-45, we gained control over the north and south sea routes through the South China Sea. As though by a great pair of shears snipping through so many ribbons, the last sea communication between the main islands of Japan and the Netherlands Indies was severed. Some shipping continued to get through by hugging the Indo-China coast and under cover of low visibility and bad weather, but it was only a trickle and at terrific cost to the enemy.

Surface and air attack now could and did throw their full weight in with our undersea campaign to charge this dear price for every Japanese ship-ton which moved south of Formosa. Oil and gasoline, both critical needs in the dwindling stockpiles of the empire, ceased to flow there from the fields in Borneo. The Netherlands Indies, the richest and the largest of the enemy's conquests, were now cut off from all access and communication except by the attenuated route overland on the Asiatic continent. Here, in these now-isolated territories, were the resources with which the empire had planned to carry on the war. They were lost now.

Simultaneously, a new menace to the imperial war structure made its appearance. From the newly seized and developed American bases in the Marianas, and out of Allied bases in Asia, the first B-29s appeared in the skies over Japan proper. A rain of incendiaries and demolition bombs commenced on the enemy production centers. Then Iwo Jima fell to our advance and a month later we landed on Okinawa. From these new points, fighter bombers and escorts and short and medium range bombardment aircraft added the weight of their attack to that of the Superforts. The fleet's carrier forces commenced their concentrated raids on the industrial centers of Honshu and Kyushu.

CERTAINLY, the Japanese war cabinet had foreseen many months before that these blows could not be long delayed; but the tremendous task of preparing to meet them was woefully short of completion. The materials needed to go underground with their factories, and to revet and fireproof those above ground, could not be spared because the reserve stockpiles had shrunk beyond their worst fears. This, in turn, had resulted directly from their own inability to maintain and augment those piles from the sources of the Indies and the mainland. Further, labor could not be diverted from the desperately overworked ship repair and construction agencies. So it was that our strategic bombardment operations found even more lucrative targets waiting for them than we could have dared to hope had it not been for the never-slackening bloodletting of three and a half years of destruction of the enemy's ships.

With Iwo Jima and Okinawa in our hands, not only were we able to step up the tempo and effectiveness of our air attack against the enemy's industrial organization, but we extended the dagger of our deadly surveillance to reach the last remaining tentacles of the empire octopus—his shipping lanes in the Japan and Yellow Seas. Manchukuo, Korea and northeastern occupied China, the last remaining areas of the enemy's "grab" activities of the years before Pearl Harbor, were being rapidly isolated.

Perhaps it would serve accuracy better to say that Japan proper was being isolated from them, rather than that they were being cut off from her. In them, her armies and installations faced the same fate as that in store for those in her other amputated outposts; i.e., slow compression, starvation and eventual hara-kiri or surrender. To what extent Japan might have endeavored to withdraw her remaining forces and resources from these lost mainland areas to the main islands will now never be known. Indeed, it is quite within the bounds of possibility that she might have tried to play that game in reverse and move the center of empire control and production over to Manchukuo. In either case, time had run out too swiftly once more, and she was too late. Such a move, to be effective, would have involved transporting whole production facilities bodily in such enormous quantities that, even were the routes unmolested, time required must have been measured in years. As it was, what shipping remained available to her was far below the minimum needed, and that was being hunted down with ruthless precision. Not only at sea when she made her furtive efforts to run the continuous blockade, but in every port and hiding place along her coasts, each day saw further reduction in her dwindling tonnage. Our surface fleets roamed her Pacific coastal waters at will, cutting down steamers, fishing trawlers and sampans wherever found. As her ship losses mounted, she saw ever closer and more clear the inexorable face of defeat. The frenzy of her effort to evade her fate kept pace with its futility; one of the last imperial edicts before the surrender is said (not entirely facetiously) to have ordered that all rickshas shall be made water-tight.

All authorities on the subject have been agreed from the outset that Japan's heavy industrial capacity was the critical index of her war endurance. This fact remained unchanged to the last, but overshadowing it in immediate importance, as the end grew near, were the further facts that the raw materials to feed that industry were no longer available to her, and that this was the direct result of her shipping losses. These had become the outstanding features of her final plight. With the obliteration of her once magnificent merchant marine, she lost the war. She went down with her ships.

Outguessing the Enemy

In the fog of war, we seldom know enough about the enemy. We must not fool ourselves that we can guess what he will do, but stick to learning his "capabilities."

By Capt W. H. Whyte, Jr.

THE Japanese General, as he pored over maps in his Bougainville headquarters, was a very puzzled man. He was sure the Americans' next move would be a landing on Bougainville. The big question was where. In view of the tremendous stretch of vulnerable coastline this was quite an order for any G-2, but he was up to it. After a thorough study of terrain, hydrography and his past (and disastrous) experience with the Americans, he decided that the landing would undoubtedly be made at Gazelle Bay on the west coast.

His men feverishly prepared beach defenses and strengthened their Gazelle Bay garrison to meet this expected invasion. It is more than possible that one day an excited runner rushed into Headquarters with an American officer's dispatch case which had been found in the bush along the coast southeast of Gazelle Bay. The Yankees had obviously been reconnoitering the area! As the writing in the officer's notebook was translated, we can imagine the "I told you so" smirks that came over the Japs' faces, for the American had stupidly jotted down his orders—orders to patrol the area to determine the best landing beaches.

But when the landing came, it was at Torokina, 15 miles to the north in an area lightly defended. However, the Jap commander was not this easily fooled—the Torokina landing was obviously a most clever diversionary move, so he kept his men at Gazelle Bay in readiness for the main landing.

As we know, it was never to come off, for, as had been planned all the time, the 1st Marine Amphibious Corps poured everything into Torokina. The captured notebook with the Gazelle Bay landing plan? It was prepared by the Marine G-2 and deliberately left behind by the amphibious patrol for the Japs to find. Actually, we cannot be sure that it was retrieved by the enemy, but we can be sure the Japs' belief that they had correctly divined our intentions cost them dearly.

Human nature being what it is, rare is the person who doesn't secretly feel himself endowed with a profound perception of other people, with instinctively correct hunches as to their probable behavior in a given set of circumstances. True, some of our predictions may have gone wrong, and we may even have lost an election bet or two, but they were "exceptions." Thus, confronted with a rather foggy situation in which we, as platoon leader or division G-2, should make an estimate of the enemy, our natural instinct would be to avoid the routine job of objectively reviewing all our information and going to work with a map and a pair of dividers. It would be so much easier to put ourselves into the enemy's shoes to determine his probable intentions.

The Japs on Bougainville tried it and failed. In an even larger sense their fateful and now much regretted decision to launch the Pearl Harbor attack was the result of paying too much attention to what the "decadent" Americans probably *would* do, and too little to what they *could* do. The German General Staff, if they get the opportunity to compile a manual of their mistakes in this war for future reference, might say "Amen" to this.

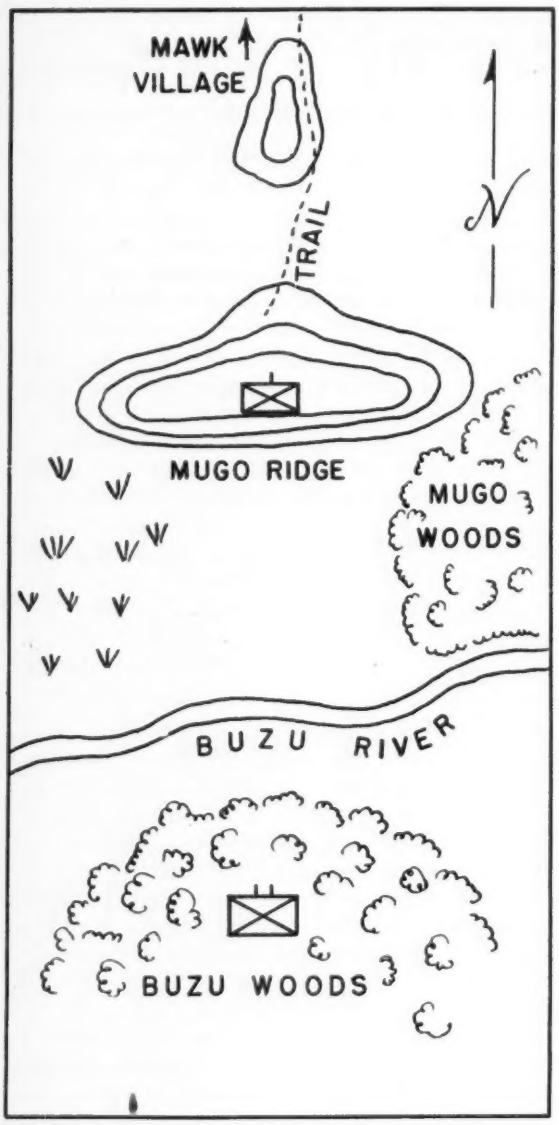
One might reply that the Germans and Japs, and often ourselves, simply made bad guesses—poor applications of a perfectly sound principle. What, then, is wrong with the theory of "intentions?"

In estimating intentions we're starting out on a line of deductive reasoning. On the basis of incomplete information we arrive at a premise—i.e., "The enemy always attacks over the worst terrain." Then we continue our deductive reasoning by applying this premise to individual cases; i.e., "Gongo Swamp is the worst terrain around; therefore the enemy will attack through Gongo Swamp." However, in deduction, our conclusion is valid only if the premise is absolutely correct. If it isn't we're liable to be in hot water.

Because we realize that in the fog of war we rarely know enough about the enemy to justify making sweeping generalities and premises that will hold true in all cases, we prefer the method of inductive reasoning, the method by which we let the facts point to the conclusions rather than taking a conclusion and finding facts to support it.

We go even further in admitting our shortcomings, for we know that in inductive reasoning the conclusions are only probable, the extent of probability depending on the amount of facts we have. Thus, in making our estimate of the enemy situation, we don't fool ourselves that we can determine what he will do, but more modestly stick to finding out which is the most probable of the things he *can* do. This is the system of "capabilities."

With what information we have of the enemy and the terrain, we consider what general courses of action he could physically carry out, however stupid or tactically unsound they might seem. Some of these courses wouldn't hurt us in the least, and might be just what we want him to do. While we're naturally curious about anything the enemy may be up to, first things come first, so we con-



What are the Japanese capabilities here?

centrate our attention on those of his courses which, if adopted, would interfere with the accomplishment of our mission, these being classed as his "capabilities."

As an example, let's take over the job of the S-2 of the battalion which has just arrived at 1400 in Buzu Woods, as shown in the drawing on this page. Our mission is to seize Mugo Ridge, currently occupied by what appears to be a company of unreconstructed Japs. H-hour has been set at 0800 tomorrow. What are the enemy's capabilities?

If he withdrew, we would be delighted. Such fortuitous action on his part wouldn't hinder our job at all, so it's not a capability, although it would quickly become one if regiment told us to "destroy" that particular group of Japs. They can chiefly hinder our mission by defending the ridge. This is the obvious capability, and many would feel it the only one. But although they're not supposed to, since we're all set to attack, they *could* stage an attack of their own. Illogical as it might seem, it is a capability, just as was that of a German attack against our forces in the Ardennes sector last December.

If there were another company of Japs at Mawk Village to the north, we would add the capability of their reinforcing the unit now on Mugo Ridge. We wouldn't qualify each capability according to a possible reinforcement build-up, for that would run into a regular geometric progression, but would state it as a separate capability common to the others.

So far we've examined the "what," but we must also consider the "where," and "when," and the "in what strength"—and this is where the trouble begins. The G-3, in making his time and space calculations for our own operations, includes reasonable allowances for all time-consuming factors such as the transmission of orders, reconnaissance and so on. Time and space calculations on the enemy, however, must be based on assumptions of complete preparedness, maximum speed and perfect operational efficiency. At the beginning of the war with Japan we tended to go a bit overboard on this and credited the Japs with being pocket-sized supermen, their transports of limitless capacity, and rough terrain their first love. We soon learned, however, that the Nip was no better with the machete than we. By the end of the war we could estimate rather closely the time and space factor of his capabilities. To overestimate the enemy, while perhaps not as dangerous as underestimating him, is to rob ourselves of many chances for quick and decisive action.

To get back to Mugo Ridge, let's continue the situation, keeping in mind the importance of determining the "where," "when," and "in what strength" factors. Our mission has now been changed to that of holding Buzu Woods—the Jap company at Mawk Village has finally marched south to reinforce the company already on Mugo Ridge. Continuous aerial reconnaissance has spotted no movement, and patrols in Mugo Woods were negative as of 1530. It's now 1700. What are the enemy capabilities?

Assuming that we've closely computed the rate of march through the swamp and jungle, we find that he can attack us with two companies on our front any time after dark; our right any time after 1900; our left any time after 2200; and our rear any time after 2400. Either a defense or withdrawal on his part in this instance wouldn't be a capability, since it wouldn't interfere with our mission.

But, you might say, is that all he could do? Couldn't he attack our left with a platoon, hit our front with another, and then envelop our right rear with the bulk of his force? Or couldn't he make a

feint on our right with two platoons and launch his main attack straight across the river . . . or a feint on our left . . . and so on, ad infinitum?

Since the variations of the enemy's main capabilities are endless (not going beneath platoons in this instance, since there are over 300 "sub-capabilities") it is obvious that to go into the ramifications of each general course would be an impossible task. Accordingly, we concern ourselves chiefly with what the enemy will do with his *main body*.

Now let's take the same situation and examine it through the eyes of the one who believes in "outguessing" the enemy—of trying to determine his intentions. The battalion S-2, being a modest fellow, admits that while he knows what the Nips can do, he doesn't know what they *will* do in the next 24 hours. At the CP is Captain Hotshot, "an old Jap fighter," who has no doubts whatsoever that he can dope out what the enemy's up to by the simple process of placing himself in the enemy's shoes. "Easy, Lieutenant—so I'm over there on that ridge. I've got two companies. The Americans have a battalion. I've got a swell defensive setup—good high ground—grazing fire to my front, as well as a river. There's a swamp protecting my right flank. . . . I've got a swell route of withdrawal if things get too hot—couple of good spots for a delaying position between the ridge and Mawk Village. By defending I've got everything to gain and nothing to lose. If I attack a battalion with two companies, I'm crazy. And let me tell you something, Lieutenant, I know these Nips pretty well, and they're not crazy. Take it from me, those babies are going to sit on that ridge."

CAPTAIN Hotshot, rather pleased at this searching analysis of the situation, is temporarily discomfited by the sudden appearance of Sergeant Jones, just back from patrolling Mugo Woods. The sergeant's patrol had run into a group of Japs hacking a large trail up to the banks of the Buzu River. By cross-examination, however, Captain Hotshot finds that the Japs were jabbering away merrily when the patrol spotted them! "Simple! Plain as the nose on your face—they were staging a demonstration to make us think an attack is coming up—the fact they were making so much noise gives 'em dead away." Here Captain Hotshot permits himself a patronizing chuckle. "Well, that might fool some people, but they're not fooling this bird. I know what makes these Nips tick."

Fortunately, since this is a hypothetical case, we can actually find out what's going on over there on Mugo Ridge. For one thing, Captain Ichimura, a first class officer, was killed this afternoon by a mortar shell, and the company commander of the outfit, just arrived from Mawk Village, is 1stLt Sugiyama, a fireball of limited intelligence. Yesterday afternoon he was severely reprimanded by the battalion commander for his company's being the worst in the battalion, so Sugiyama is naturally anxious to redeem his good name as well as the company's. On the basis of reports from patrols and observation posts, he estimates the strength of the Americans on the other side of the river to be approximately a reinforced company. It doesn't give him much margin of superiority, but as he is an unusually skillful tactician, and as one Jap is worth ten Yankees, he knows he can annihilate them. Accordingly, he has sent out a trail-blazing patrol to prepare the way for a forced night march to turn the enemy's right flank, after which one good banzai charge will do the trick.

Far fetched?

DELVE into the background of any Japanese campaign in the past war and you'll find that they, like ourselves, often made plans on the basis of inaccurate information, improper evaluation, poor terrain analyses, and these plans, good or bad, were changed at the very last minute. So how in the world, with even the best of information, can we tell what the enemy's going to do when frequently he doesn't even know himself?

At the battle of Fredericksburg, Lee was about to deliver on Burnside's badly disposed Union forces an attack which gave every promise of success. Just then he was given an order of Burnside's that had been captured—an order which revealed Burnside was planning to attack the next morning. Stonewall Jackson was all for attacking immediately, but Lee decided, on the basis of this document, to postpone the attack and lay a trap that would catch Burnside when he ventured forth the next morning. As luck would have it, Burnside changed his mind and withdrew, thus robbing Lee of what perhaps had been his best opportunity to destroy the main Union army.

Lee, of course, was taking a justifiable military gamble in postponing his attack, but it is an illustration of how impossible it is, even under the best of circumstances—such as the capture of the enemy's plan—to determine ahead of time exactly what the enemy *will* do.

In this connection we should avoid deducing the enemy's mission, for it is simply another way of estimating "intentions." The Japs, having "G-2d" the marines' Bougainville beaches with a conspicuous lack of success, apparently still believed themselves up to reading our minds, for they decided that the U. S. mission was to conquer the entire island. Thus, while the marine beachhead was being consolidated, they refrained from attacking it with any sizeable force, but rather strengthened the defenses of the island's various garrisons. When it later became evident that the marine mission had been to establish a perimeter to defend newly constructed airfields, the Japs mounted a full scale attack, but too late to have any real chance of success against the perimeter, now well dug in.

Obviously no commander is greatly helped in making a decision by a mere list of what the enemy

can do. In calculating his best course the commander wants to know what is the most probable enemy capability. In determining this priority, the primary consideration is the disposition of the enemy forces—which course is he best located to carry out? In the case of the Japs on Mugo Ridge, if our reconnaissance indicated that the bulk of the force had moved to Mugo Woods during the night, we would be justified in listing an attack on our right as the most probable. True, it might be a feint, but if we get too subtle about it we could never determine anything.

The biggest pitfall in estimating probability is to analyze the terrain to determine which course it favors most. The fallacy of this reasoning lies in the fact that the enemy, in making his dispositions, has *already* made his terrain analysis. Our terrain analysis might be better, but he's placing his troops on the basis of *his* evaluation, not *ours*. That is the reason why, in estimating the probable order of the capabilities, we are guided primarily by the enemy's dispositions rather than by the terrain.

Dispositions are the basic consideration in estimating priority of capabilities, but there are four other factors that can influence our choice of the most probable enemy course. These are: the enemy's tactical doctrine, his recent performances, national psychology, and the character of the hostile commander.

Among the armies of the world, Field Service Regulations vary little, lip service being paid to all of the standard tactical principles. Past enemy performances, however, reveal which of these principles the enemy customarily puts most emphasis on, and which of them he honors in the breech. In respect to the Japs we found that despite their Staff Manual's warnings against uncoordinated offenses, piecemeal attacks were the rule rather than the exception.

THE national psychology of the enemy nation frequently may point to an indication of priority. Intelligence officers early learned that they could often expect a full-blown banzai charge on the anniversary of the Emperor Meiji, even when the situation called for considerable Nip circumspection.

In like manner our intelligence agencies must constantly be striving to learn as much as possible of the character of the officers of the armies of the world. The obscure second lieutenant of today may be the general opposing us tomorrow. Is he rash? Is he cautious? Does he love a good party . . . liquor? Patient detail work now may provide one of our future commanders with character analyses that will help him keep one jump ahead of the enemy. George Washington, one of the most intelligence-minded of all our military leaders, was always anxious to find out as much as possible of the character of his opponents. His awareness of Lord Howe's dilatory ways enabled him to escape defeat more than once when they met in the field.

In using these five factors affecting the priority of enemy capabilities, the big temptation is to slight dispositions, develop a "pet theory" as to what the enemy *will* do, and then rationalize it on the basis of tactical doctrine, psychology and so on. This form of reasoning becomes, in effect, that of "intentions." We must remember that the basic consideration in determining the most probable capability is the known disposition of the enemy; in other words, which course is he best disposed to carry out?

TO sum up: on the basis of the last known enemy situation we consider all those courses of action of which he is physically capable, examine them in the light of our mission, and class those which would interfere with our mission as capabilities.

In stating these capabilities we determine as closely as possible the time, space and strength factors—when (usually the earliest time) he can carry out his course—where—and in what strength.

While we give the enemy the benefit of the doubt to avoid being surprised, we nevertheless use all the information and background material we have available to narrow down the time, space, and strength factors so we won't overestimate him and thus lose many opportunities for success.

Whenever possible, usually on the basis of the enemy's dispositions, we determine his most probable capability. However, we avoid at all costs becoming so engrossed with this that we forget other courses of which he is still quite capable.

The atom bomb, the new complexion of warfare, may make our time and space charts of today soon useless, but they reinforce the importance of the doctrine of capabilities. Let us lull ourselves into believing we know what potential antagonists will do (often synonymous with what we *want* them to do), and we may be awakened by a triple-atom, jet-propelled, television-controlled, Buck Rogers device that wasn't on our list of capabilities.

Once you feel sure that you *know* what the colonel sitting across the river from you is going to do tomorrow morning, just remember that if you're a normal human being you've sold yourself a bill of goods. From that point on, unless you've got an extraordinarily disciplined mind, it's going to be easy for you to find material to support your conviction. Recall our political campaigns—how one orator can take a set of facts and prove to his and others' complete satisfaction that Candidate X is a veritable devil, while another orator, with exactly the same set of facts, can by different emphasis, selection and interpretation prove that, quite to the contrary, Candidate X is a saint.

With the system of capabilities we're not out to *prove* anything. We follow it to guard against snap judgments, preconceived opinions, overconfidence in our powers of foresight—and with it to keep our minds completely open.

Tactical Use of Flame

Modern warfare is based on historic principles. The Jap fell back on man's earliest defense—the cave. To defeat him, we employed one of history's most primitive weapons—fire. ***By 1stLt Lewis Meyers***

MODERN warfare has gone both backward and forward for its weapons and methods. The Japanese employed everything from sabers to rockets, and in the last year of the war their defense was based on caves, man's earliest defensive structure. In Europe the medieval fortified position had been carried to its greatest development in the various Lines—Mannerheim, Maginot, Siegfried—but with modern weapons and tactics they were assaulted successfully. However, the Nipponese cave-defense resisted the effect of the latest bombs and guns. It was history that provided the most potent answer: fire.

Paralleling the enemy's development of the cave system was our tactical use of flame and heat. When the war ended, an American ground commander had three methods of applying flame to the enemy: the portable flamethrower of the infantry; the mechanized flamethrower of the armor; and the gelgas incendiary belly tank of the air forces.

Each of these is being improved constantly. Yet the methods used in the most recent campaigns were much the same as those of 2,000 years ago, which is as far back as military history records the tactical use of fire. Man had caves and fire long before, but there is no specific evidence that the one was used on the other before the siege of Plataea in 429 B.C. By that time the cave had developed into the walled town and those military masters, the Spartans, attempted to burn Plataea by setting fire to piles of wood saturated with pitch and sulphur.

Five years later one of the early "combat correspondents," Thucydides, reports incendiary tactics at the siege of Delium. Here a cauldron was filled with pitch, sulphur and burning charcoal and placed against the wall of the town. The mixture was fanned into flame by using a bellows with the blasts directed through a hollow tree trunk.

Amphibious tactics involving fire appeared in the next century, when wooden containers were packed with a mixture of sulphur, pitch, charcoal, incense and tow; these were ignited and tossed on the enemy's decks.

Constant experiments with the fuel eventually led to a type known as wildfire, a sample of which contained the usual sulphur, plus tallow, rosin, turpentine and crude antimony. The Crusaders referred to this as Greek fire.

The real Greek fire appeared about 660 A.D., the creation of a Syrian architect named Callinicus who had come to Constantinople. During several sieges of the city his product was used with great effect in the defense by the Byzantine Greeks, which accounts for its name. This medieval secret weapon was a wet fire thrown out from siphons, pressure coming from the hose of a water engine applied to the breech of the siphon. Callinicus' formula supposedly added naptha and quicklime to the standard sulphur. The siphons were wooden

The war's end found the portable flamethrower established as an auxiliary weapon.

Flamethrowing tanks were used in strength against the Japs in the Okinawa fight.

tubes cased in bronze, and the whole setup was literally a flamethrower. In its first employment it set fire to the ships of the Saracens' invasion fleet and thus also was known as sea fire.

After these various Dardanelles campaigns, the military use of flame seems to have been insignificant. Cities were put to the torch all over the world, but not tactically.

In the winter of 1914-15 there appeared a direct descendant of the siphons of Callinicus—the *flammenwerfer*. This German flamethrower was employed with success at Verdun on 26 February 1915. The French soon took the field with their version of this weapon, and the British employed a model of their own on the Somme and again in the Zeebrugge attack in 1918. Flamethrowers were not used by the AEF.

It was the general opinion in World War I that the effect of the flamethrower was chiefly moral. An eyewitness account of the *flammenwerfer* in action describes how its use produced a loud roar, flickering flames and dense black smoke—all of which combined to make it hard for troops, especially green ones, to stand and face it. The early flamethrowers were limited in range, and it was claimed that the fuel was consumed in the air, as the flame could not be turned downward due to the upward current caused by the heat of the discharge.

By the end of World War I, flamethrowers had developed into two types: heavy and portable. In each category the British had what seemed to be the best models, their heavy having a maximum range of 134 yards, and their portable reaching as far as 45 yards and getting from 15 to 18 shots from a three-gallon fuel filling.

In May 1940 the Nazis, who had revived warfare, also brought flamethrowers into use again to help in breaching ports of Eben Emael.

Likewise, as in the first world conflict, the conclusion of World War II found the British with excellent flame weapons. This time there were three of them: the portable Lifebuoy, the heavy Wasp, and the mechanized Crocodile. Mounted in a Churchill tank, the Crocodile was described in August 1944 as "the most powerful and most devastating flamethrower in existence anywhere." It carried its fuel in a jettisonable trailer. The Crocodiles were called upon in the Battle of Europe a half hour after the Normandy landings.

The Lifebuoy, used by paratroopers, Commandos, and Canadian infantry, had a 50-yard range and carried its fuel in a ring-shaped tube which gave it the name. The heavy Wasp, mounted on a carrier, had a range of more than 150 yards. All three British weapons used a special fuel—one which literally went around corners and ricocheted from flat surfaces.

The United States entered World War II with the M1 flamethrower, which had a top range of 10-15 yards and frequently misfired. No enemy unit had a better one, but that did not overcome the dislike and distrust the American troops felt for the M1. Gradual improvement came with constant research, but the main problem remained: the too-rapid burning of the gasoline fuel. It was consumed a short distance from the nozzle and also had a tendency to roll off the target.

The answer came when gasoline was thickened with metallic soap, and reached its peak of efficiency in napalm, a three to eight per cent mixture of aluminum soap with gasoline. This almost doubled the range of the flamethrower, for the thickened fuel is ejected as a clinging rod burning on the outside. It adheres to the target and burns for several minutes and is much safer for the operator. The old-style liquid fuel can still be employed for its spectacular shock value and smoke effect.

In 1942 the M1 was modified for napalm and issued in quantity in a model which weighed 68 pounds when filled. There were still deficiencies in this model, though it was successfully used in Pacific battles on New Georgia, Tarawa and the Marshalls, and was employed with indifferent results at Guadalcanal and in the early New Guinea campaign.

In the summer of 1944 appeared the M2-2, with the same four-gallon capacity and the same 40-yard range. This model had an improved ignition system and better maintenance features, but was still heavy and the silhouette was still high. Developments have been continuing with a view toward

reducing this silhouette and weight. A supplementary weapon of this type has been developed which is a one-shot expendable model with which one man can fire one burst in any position and then discard the weapon.

THE end of the war found the portable flamethrower established as an auxiliary to supplement the infantry's basic weapons. In 1942 a marine division had two dozen flamethrowers, carried by the combat engineers; now the same marine unit has 81, used by personnel of a special assault platoon in each infantry battalion.

Even more than other arms, the flamethrower requires training and knowledge on the part of its operator and his unit. There were heavy casualties among flamethrower men in the first Pacific battles because these fundamentals had not been mastered. The scant success obtained with the weapons by Americans in Europe and in the Mediterranean theater also was attributed to this same lack of training and understanding of the weapon's capabilities. In the Pacific, knowledge gradually was acquired in combat and, as the weapon was improved, its tactical employment kept pace.

The rising tempo of bombardment from sea and air drove the Japanese underground and led to their development of *Dogutsu Sakusen*. These cave tactics became important in the Marianas and were perfected on Okinawa, with intermediate steps on Peleliu, Iwo, the Philippines and Burma. Marine assault tactics were developing concurrently, and flame still was the key to the cave system. The portable flamethrower began to encounter situations like the iron doors of Palau, the mutually supporting fires of the Ryukyus, and the massive fortifications of Manila Bay. Flame was the answer—but the portable flamethrower could not provide it in sufficient quantities nor advance through coordinated defensive fires to apply it.

Two methods existed to put the heat where it was needed: to armor and mechanize the flamethrower or to fly the flame fuel over the target. The mechanized flamethrower had appeared early in the war in Russian and German models and had reached its European peak in the British Crocodile during that war's final summer. There had seemed little need for an American model, but one of the lessons of Tarawa was the need for protecting the flamethrower operator in some situations.

The flamethrower for this purpose came to the Pacific early in 1944—the so-called Ronson, a Canadian Army heavy-duty model with a 150-gallon tank and a long range. Experimenters in the Hawaiian Islands mounted it in LCTs, instead of in the Bren gun carriers used by the Canadians. But the real solution came in the spring of 1944 with the creation of Satan—an M3 light tank carrying the Ronson with 170 gallons of fuel and a range of 60-80 yards.

The V Amphibious Corps took 24 Satans into the Marianas campaign and they worked well against caves, cliffs and canefields. Mechanized flame also was used on Luzon with success.

After trials of a heavy Navy model in landing craft at Peleliu, the mechanized flamethrower was perfected in the Pacific in the POA CWS H1 Flame Throwing Tank. This combined the M4 tank with the improved Ronson and had a capacity of 290 gallons, a range of 60-80 yards and a firing time of 2½ minutes. This weapon went to Okinawa in strength with both the marines and the soldiers of the Tenth Army.

Japanese cave defenses were being developed to such size that some had to have fuel pumped in and ignited by incendiary grenades. The first field expedient for such assaults was pumping from trucks or landing craft, but on Okinawa the procedure was standardized by using the H1 with an M2 flame gun fed by 50-foot lengths of 1½-inch rubber-lined fire hose. As much as 400 feet of hose were used from the tank up a 45-degree slope with four per cent napalm. With 300 pounds pressure and two men controlling the hose, flame could be applied for 2½ minutes. This procedure was well adapted for dealing with caves high on ridges outside the normal range of the H1.

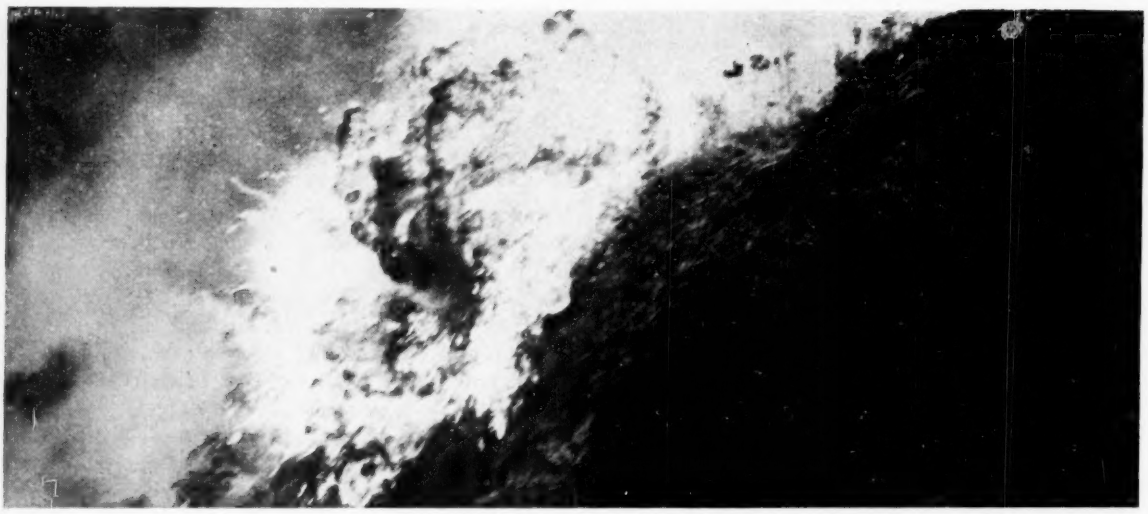
RELATED developments have been the auxiliary flame guns—bow-mounted and periscope-mounted supplementary weapons that do not affect the employment of the tanks. It seems probable that some form of this weapon will be standardized tank equipment in the future.

The mechanized flamethrower's mission is primarily to demoralize personnel and to destroy positions impervious to other tank weapons. Like the portable model, its principal use was in the Pacific. In the ETO, results were generally unsatisfactory due to bad weather and lack of training and suitable fuel, although some armored operations did include considerable use of flame.

The most direct and primitive use of fire—pumping thousands of gallons of fuel into an enemy position and igniting it—was best employed in Manila Bay on two tiny islands off Corregidor. These islands, Caballo and El Fraille, contained pre-war American fortifications, Fort Drum being located on El Fraille.

On Caballo the Japanese withdrew into the tunnels and passageways of the fort, which made flamethrowers useless. It was planned to pour a mixture of thickened gasoline and Diesel oil into the tunnel shafts and ignite it. Fuel was assembled, but the first attempt was stopped by knee mortar fire, with the fuel being set off during the fight.

The solution came with the "Rube Goldberg"—an LCM which pumped more than 2,000 gallons of fuel into the fort, where it was ignited by an 81mm WP shell; it burned rapidly, causing several explosions. More fuel was pumped in, and more



When our tanks couldn't reach Japanese mountain defenses, fire bombs were used.

explosions followed. The same procedure was followed the next day at another pit, and the day following two Japanese were caught trying to escape. They reported that conditions underground had been almost unbearable, so the commanding officer had given his troops the choice of suicide or attempted escape.

Fort Drum on El Fraille Island was reduced without an American casualty, using the "Rube Goldberg" again. Two thousand gallons of fuel were pumped in through two openings and ignited with delay charges. Fumes and smoke issued from all crevices, and the heat was so intense that two days after the explosion it turned back a patrol. A week later a patrol entered the fort and found a large section of one deck blown away. Approximately 70 bodies were counted, mostly suffocated, and the fuel seemingly had spread throughout the fort.

The third tactical use of flame in the war was strictly a modern innovation which was employed successfully in every theater: the "aerial flamethrower" or droppable gas tank. The jettisonable tank was once regarded mainly as an encumbrance on planes. Then it was discovered that when dropped with thickened fuel it covers the target with blazing liquid. When available, napalm is mixed with aviation gasoline, but effective thickening also results from the use of cotton waste, crepe rubber and smoked rubber strips. On occasion crude oil has been used with a paraffin-asphalt-gasoline mixture.

Standard belly tank igniters are effective; field expedients such as WP grenade igniters, or even strafing the area after the tank has been dropped, may be resorted to if igniters are lacking.

A filled 165-gallon tank weighs some 1,300 pounds; planes such as the P38, P40 and P47 can carry one tank under the belly, or one under each wing. An A20 can carry almost 600 pounds per wing rack, which means four 75-gallon napalm-filled jettisonable tanks.

The first extensive use of aerial flame after the Normandy invasion came in the period of two months following the break-out. American planes dropped 157,000 gallons of napalm incendiary gel in that time, using 68x108 British-type jettisonable gas tanks. In the next ten weeks the AAF dropped 199,000 gallons of flame on the Siegfried Line area, reporting that German troops and civilians were dazed and unbelieving at the effects of the incendiary gel. The forts in the Brest and Metz areas also were blanketed with fire. The forts suffered little physical damage but prisoners declared fear of the flames ruined the morale of the forts' garrisons.

Gas-tank bombing reached its high point when 460,000 gallons of thickened gasoline rained down on the Gironde Estuary near Bordeaux.

In the Pacific in the summer of 1944 the gel-gas bomb proved to be more effective than WP or thermite against canefields and wooded areas on Tinian. P47s from just-captured Saipan flew the flaming missions and found that tanks dropped well in front of the target flamed an area 200-300 feet long and 50-75 feet wide. The same bombs were dropped extensively on Iwo Jima during the preparation for landing, and in nine days on Corregidor more than 30,000 gallons of napalm were used.

Thus in changing situations in every theater the need for flame proves again that modern warfare consists merely of modern methods of applying historic principles. The flames the Spartans started at Plataea had the same effect on that garrison as was felt by the Nazis at Metz and the Japanese at Fort Drum and Okinawa. Fire is a primitive weapon and a horrible one—but it can be effectively applied, and it can keep casualties at a lower figure. It is history's answer to an ancient defense.

Mental Health in Military Life

Nervous breakdowns in combat may amount to as much as ten per cent of total strength. This subject warrants study by every marine officer.

By LtComdr Philip Solomon, USNR

First of three articles on the neuropsychiatric problem in the Marine Corps*

Importance of the neuropsychiatric (NP) problem is appreciated by every marine officer of any experience. In combat, breakdowns and loss of men due to NP causes may amount to as much as ten per cent of total strength. Some outfits, in unusually trying circumstances, have been decimated completely by the contagion of mass hysteria. Fighting men may be spurred on by the sight of their physically wounded buddies, but the spectacle of nervous breakdown is unnerving and sometimes paralyzing to them. Loss of effectiveness in troops who are not sufficiently disturbed to turn in is difficult to estimate but decidedly real. The man who freezes in his foxhole is of little value in the assault.

As the pace of modern warfare and the nervous strain on the individuals taking part in it increase, there is growing realization of the importance of the NP problem. One need not consider even such matters as the eventual cost to the government in pensions for NP disabled (averaging $35,000 a man in World War I) or damaging results on the subsequent lives of affected men. The purely military factors involved are sufficiently vital to warrant serious study of the NP problem by every marine officer. In particular, the marine officer should thoroughly understand the nature and value of NP preventive measures and the proper handling of the NP situation in combat. The purpose of these articles is not to make an NP expert of every officer but to set down practical, relevant information which will help the officer comprehend what he is up against and how he can do his share in coping with the NP problem in military life.

IN studying a weapon, you learn how it functions properly before you consider the things which may go wrong with it. Similarly, there is a great deal that should be known about mental health before we turn our attention to mental diseases. Indeed, as will become evident later on, a robust state of mental health is one of the best defenses against mental disease, just as robust physical health is one of the best defenses against physical disease.

Mental health is more than the absence of mental disease. It includes such positive elements as self-confidence, alertness, resourcefulness under fire, enthusiasm, good humor, and, in military life especially, resistance to fear—courage. Both in weapons and in men, the best of materials will be useless if improperly cared for and controlled. Mental health is as important in the functioning of men as cleanliness, lubrication, proper setting of fuses and fire control are in the functioning of guns. It should be recognized that mental hygiene is as vital as physical hygiene in military life.

In the following topics, various elements that enter into the production of mental health in troops will be discussed:

1. *Proper leadership*

Millions of words have been written about leadership, and many articles and handbooks on the subject are available for the naval and marine officer. Many famous military leaders have expressed themselves on the subject and have usually offered words of advice to junior officers. It is not the aim in this discussion to summarize, condense or select from this wealth of material, and certainly not to compete with it. The techniques of military leadership are competently taught elsewhere. It is relevant, however, to stress here those aspects of leadership which have particular importance with respect to the NP problem.

Symbolically, the leader represents the father to the enlisted man. This is true regardless of the relative ages involved. All men were once boys and the father was their first authority. The American boy, in general, has been brought up in an atmosphere of family democracy, in which the father uses his authority in the interests of the children and with appropriate respect for the children as individuals. The successful American father exercises his authority with benevolence, combines firmness with goodwill, and attempts always to make the child understand the reasons for the orders and rules. The result is a properly balanced attitude toward authority that carries over from the father to the teacher, the teacher to the policeman, and so on to employers, club leaders and government officials. Leaders are expected to lead

**From the Medical Department of the Sixth Marine Division, Captain Don S. Knowlton, (MC), USNR, Division Surgeon.*

fearlessly, but always in the interests of and with respect for those led.

The marine officer should always keep in mind this traditional American attitude toward authority. As a leader, he should remember that he epitomizes the father to his men, and he must keep foremost in his mind the interests and well-being of his men with full recognition of them as individuals and human beings. Naturally, in the military setting there are usually limits to the amount of explaining that may be done, and often obedience must be immediate and unquestioning. But the principle may hold nonetheless. The men soon recognize the leader who is motivated by their best interests.

Two common and oppositely directed failings in officers are important in considering mental health of enlisted men. The first is seen in the overbearing commanding officer, who mistakenly overemphasizes curtness, bluster and stern discipline. Such an officer stirs up deepseated hostility and rebellion in many men. The second is the weak, indecisive officer who vacillates and falters in the pinches. Such an officer generates lack of confidence, apprehension and anxiety.

Either reaction is damaging to mental health and conducive to NP breakdown. The officer who cannot maintain an essentially paternal attitude toward his men (and it must be admitted that there are some who cannot) may be a satisfactory figurehead but never a true leader. The American fighting man wants neither to be bulldozed nor mollycoddled. He wants only a square deal.

2. *Proper training*

Self-confidence is the antidote to fear. Nothing is so conducive to self-confidence in a coming situation as to know that one has been through it before. The value of battle-hardened troops has long been appreciated by military leaders. But thorough training can be a good substitute for actual battle. Drills, combat courses, maneuvers, live ammo fire, simulated mines, mortar fire and amphibious landings can be made very much like the real thing. Adding amplified recordings of actual battle sounds would be of additional help. Certainly the field living—mud, lack of comforts, K rations, primitive heads—can be experienced in the form of a preexposure which will serve to prevent surprise, disgust, dismay and revulsion at a time when such emotions would be damaging in actual combat. Better to overcome these feelings, or at least become resigned to them earlier, than to meet them first on the field of battle. Those who cannot take it, and these will be discussed later, are best weeded out in training. Every effort should be made to send troops into combat only after they have completed the entire course of training. Green men as replacements are often considered worse than none at all. The results are sickening to the older men. "They get themselves killed so foolishly," they say.

3. *Strategic orientation*

The average American is a thinking being and not an automaton. When he is asked to leave his home and his loved ones to take up arms, he wants to know what he is fighting for. He cannot be expected to do his best unless he is convinced of the vital and inescapable urgency of the Cause. A thorough indoctrination in the causes for which we are fighting should be part of the early training of every marine in wartime. Material of this general nature may be offered in the form of educational movies, but they should be supplemented by group discussions under capable directors, so that the individual man may ask questions and clear up doubts in his mind.

4. *Tactical orientation*

Not only is it of value to have the individual marine understand the reasons for war; he should also be made to understand the reasons for the particular military operation in which he is scheduled to take part. Pains should be taken to give him as much information of the tactical situation, all the way down the line, as military security will permit. Why must we take this island? This peninsula? This hill? The marine who knows why will work harder and more intelligently toward the goal. Probably the greatest advantage that American fighting men have over those of other nations is their aggressive resourcefulness under fire. Perhaps this stems from the pioneering spirit that made adventurous emigrants of all our ancestors. In any event, the way to capitalize on this in our marines, where individual effort is so important, is to let every man know as much as possible of what is in the wind. Then, in an emergency, he will be better able to fend for himself and perhaps improvise a way out of his difficulty. He will also have greater confidence in himself when he knows that his leaders are willing to trust him with "the straight dope."

5. *Rewards*

Men do things for many reasons. One of the most universal and most potent of reasons is the desire for reward. This fact has been recognized and utilized since time immemorial. In military life, the judicious use of rewards can serve as a powerful agent toward the preservation of mental health.

Rewards may occur at various levels. Perhaps the highest is the reward which a man gives himself—the inner satisfaction of a job well done. This spiritual or philosophic level is the proper concern of the chaplain, and in military life its influence is great. The line officer enters a somewhat lower level. The valuable reward which he may distribute is a well-merited word of praise or appreciation. A sincerely spoken "Good work!" from his commanding officer can raise a man's spirits for days. Equally important, though less frequently applicable, are letters of commendation, citations and decorations.

At a more material level, rewards in the form of promotions are greatly prized. A promotion raises

a man's ego, epitomizes progress, and what is more significant to many men, means more money. Contrariwise, the lack of promotions, or slow rate as compared with other branches of the service (and the Marine Corps has been criticized for this failing), causes resentment and bad feeling. A fair and liberal promotion system can be a stimulating incentive and an aid to mental health.

Further on down the scale, furloughs and liberty time are highly treasured. Again, a liberal policy toward the deserving will pay dividends in greater efficiency, less disciplinary action and better mental health. Comfort items, such as those distributed by the Red Cross, movies, canteens and the like, are greatly appreciated by the men. They should be made more readily available for the fighting men on their returns from the front, rather than the special prerogative of rear area troops as is all too often the case. This would decrease the hostile feelings held by front line troops for those in the rear, and would help make them feel, as they should, that they are the cream of the crop, the chosen ones on whom the fate of the Marine Corps ultimately depends.

Finally, at the end of the line, are punishments. Undoubtedly, the threat of punishment is a deterrent to wrong-doing for many men. But threats must not be overdone. Punishments, to be effective, should be swift, sure, scrupulously just, and meted out with full consideration for all attendant circumstances. It is noteworthy that those outfits with the best leaders generally have the fewest disciplinary actions. The desire for approval is far healthier than the fear of disapproval.

6. *Proper classification and assignment*

In the Marine Corps, as in other branches of the service, an attempt is made to place every man in the job he is best fitted to do. Unfortunately, there are serious limitations involved. There is need for only a certain number of clerks, carpenters and plumbers. On the other hand large numbers of riflemen must be provided to do the actual fighting. The distribution of men, therefore, must be made more by need than by ability.

There has been bitter criticism that only the flower of our manpower is chosen for "cannon fodder," that the unfit, who could more easily be spared by the nation, are rejected. This is an ironical necessity of warfare. The principle, in fact, must extend even further. More must be demanded of those who have more to give. In this connection, attention should be drawn to the widespread error of underrating the requirements for first class front line troops. There has been too general a tendency to use "riflemen" as a dumping ground for the leftovers after other jobs have been filled. Every experienced line officer knows the enormous difference between skilled troops and a group of ineffectuals. This difference may not be so important in certain forms of warfare, but in the Marine Corps' type of fighting, quality cannot be ignored in favor of quantity.

Unquestionably, there would be fewer NP crack-ups in combat if the need for a well-integrated personality and mature emotional stability were recognized in combat troops. Just as candidates are screened before they come into the service, they should be screened again most carefully before they are sent into combat. The immature, the unstable and the dull-witted, to mention but a few, should be kept in rear areas where their deficiencies will not be so costly.

From the standpoint of mental health, it is important that a man's wishes with respect to a job should not be ignored. Men generally do best what they wish to do. Of course, the military needs must be considered first, and many men will feel they are misrouted. When this true, their attitude will improve greatly if they are given the benefit of an explanation. They also should be made to realize the importance of routine, uninteresting jobs in war. It bucks a man up to think that what he is doing is important. Even standing by may be important. It sometimes helps to explain to men the fundamental and necessary unfairness of war—the unequal distribution of risks, of awards, of inevitable waste. Their own predicaments can then be seen, not as personal matters, but as part of the overall picture. This is comforting.

Officers are sometimes troubled by the "8-ball," the man who is as helpful as a sore thumb. Such a man is often palmed off onto others as the simplest solution. On occasions this helps, since the man may just happen to find the particular niche where he can get along. More often the problem is aggravated. Misclassification or misassignment may be the cause, and it may be helpful to consult the classification officer. If this fails, the case should be referred to the medical officer, or psychiatrist if there is one available.

7. *Group spirit*

Man is a gregarious animal. He prefers to share both his pleasures and his dangers with other men. In sharing his joys, they increase by multiplication; in sharing his fears, they decrease by division. Military life provides ample opportunity to witness the truth of this psychological statement. The group relationship, indeed, is a powerful source of military strength.

Experienced officers are familiar with the value of team spirit. At its highest level, it is called patriotism and constitutes a sustaining driving force in time of war. It is equally important at lower levels, in loyalty and devotion to the Marine Corps, division, regiment, battalion, company, platoon, down to squad and tent-mate. A man will stand and fight for his buddy when he might run away by himself. The cohesive strength of the group, the knowledge that he is not alone in his trouble, will hold a man to his post when all hell

breaks loose. This fact must be utilized to the limit in a military organization.

The same group of men should be kept together as much as possible, from their early training on into actual combat. Their pride in their outfits should be encouraged in every way. Battle cries, mottoes, symbols, insignia—all help in this direction. Officers should be sensitive to this group spirit, take part in it and exploit it to its fullest. When replacements are added to an outfit, they should quickly be indoctrinated into the feelings and traditions of the group. They should be brought in preferably as a team that has been trained together from the start, and they should be accepted promptly as worthy members of the larger group.

8. *The home front*

No man can be easy in his mind, or put his whole heart and soul in his work if he is worried about conditions at home. This is particularly true when a man is thousands of miles away for many months at a time. Some anxiety, of course, cannot be prevented. But every effort should be made to keep strong the one tie that still binds a man to his home—the mail. Letters are like manna from heaven, and all conceivable priority should be given to them. Up-to-date news, when it can be provided, is also a boon. Radio broadcasts or daily division bulletins are great morale builders.

It goes without saying that it is the home front's responsibility to back up the fighting man in every possible way, to give him a feeling of whole-hearted cooperation and security at home. Strikes, self-interested business management, heavy war profits, widespread dissension or enemy-sponsored rumor-mongering can only undermine a man's spirits and make him wonder what he is fighting for.

In cases of individual family problems, a talk with his officer or the assistance of the Red Cross worker or chaplain may be of great value to the man in trouble.

9. *Recreation*

Nothing is so conducive to high spirits and fresh energy on return to work than an interesting and vigorous sports program. The American boy and his baseball bat are known throughout the world. The American marine has always taken pride in his ability to carry on the tradition of proficiency in sports. Even in the combat zone it is not long before a baseball, football, volleyball or basketball is sailing through the air. All this is very much to the good.

But recreation does not stop at athletics. The movies, at which the marine can forget himself and the war for a few hours, is a great source of entertainment in every theater of operations. Enlisted men's clubs, Red Cross activities, table tennis, bowling, libraries, game rooms (cards, checkers, etc.), music (radio, victrola, orchestras, glee clubs), "happy hours," USO shows, hobbies (art, woodwork, metalwork, other crafts, gardening), and well-stocked PXs vary in applicability on the military situation, but each in its place can add tremendously to the happiness of the men. The danger in overdoing these things is very slight. There will be time enough for giving up recreation.

10. *Religion*

Religion plays an important role in the life of the fighting man. Through religious services he can learn as in no other way the ultimate goals for which the war is being fought—decency, justice, human dignity, freedom and peace. He can learn that his mission is God-given and that there is no contradiction between the necessities of combat and his religious teachings. Spiritual orientation is attained and conscience is buttressed. A man also gains a feeling of security and confidence from prayer and his faith that he is not alone, that "God is my pilot." Religion in the field is seldom the "foxhole religion" of the spurious type, generated by fear. Rather it is sincere, deep-seated, inspiring and a powerful source of mental health.

Religious observances are of value to the military man in another way. As a continuation of his accustomed civilian practices, they constitute a strong connecting tie with home and all that home signifies. It goes without saying that every effort should be made to permit men to attend religious services as regularly as possible. Suspension of assigned duties and transportation to the chapel should be arranged, if consistent with necessity.

11. *A fallacy*

It is easy to fall into error when dealing with psychological matters. Psychologists themselves do it frequently. Military men would do well to keep their feet on the ground and avoid theoretical speculations in the matter of the mind.

Marines will "gripe." This should not be misinterpreted as a danger signal. Griping can serve as a healthy safety valve to let off steam. Few Americans like to be removed from their homes and be submitted to rigid regimentation. They learn to take it as they find out that there is no other way to get the job done. However, if griping reaches serious proportions, the officer would do well to investigate. A man-to-man talk with a few of the offenders may be an eye-opener. Perhaps something is really amiss and needs to be set right. The mess sergeant may actually be a wash-out, or the beer in the slop-chute warm. In any case, the men will enjoy the chance to get a load off their chest and in many instances will be able to face unavoidable annoyances more calmly afterwards.

Just this sort of attention on the part of officers for their men engenders that fierce loyalty "when the chips are down," that is so characteristic of marines. There can be no doubt that the phenomenal success of the United States Marine Corps is due above all things to extraordinary leadership, training and group spirit.

(*Another article on the neuropsychiatric problem in the Marine Corps will appear in next month's* GAZETTE.)

Battalion on Iwo

Their commanding officer's program for "mental conditioning" made things rough for the troops while in training but it paid off when the battalion faced its most crucial test on Iwo.

By Capt Arthur N. Hill

THIS is the story—the unbelievable story—of a marine battalion on Iwo Jima. If it were a scientific thesis, it would be an awesome commentary on the incredible punishment men can take and still retain their senses, still move ahead, still realize that men must die if wars are to be won. And be willing to die.

But it's not that kind of a tale. It's just the story of a bunch of American marines and what they did on Iwo to help win the war against Japan. They did quite a bit.

It seems impossible that a military unit could take the losses that men of the 3d Battalion of the 25th Marines took during the initial phases of the battle for the tiny, dirty rock which provided the site for the most murderous campaign of the Pacific war and still be there for the finish. But it isn't impossible. These men did it.

LtCol Joe Chambers, Capt Jim Headley, a 19-year old kid named Bigler, a New Mexican called Martinez. These are the men who, along with several hundred others, wrote this story. It's the story of a commanding officer who was almost a legend and a captain who carried on in his place when he fell. It is a story that had to be told.

The men who make up the Fourth Marine Division are sure that they belong to one of the greatest fighting outfits of all time. The members of the other battalions of the Fourth would hardly admit that the 3d, 25th, is any better than theirs. Perhaps it isn't. It's quite possible that any battalion, in the same spot, could have done the same job. It's good to think so. But read what this one did.

When the huge convoy carrying the Third, Fourth and Fifth Marine Divisions moved up to the anchorage off the east coast of Iwo Jima on the morning of 19 February 1945, there were more than 900 men in the 25th; regulation, flesh and blood human beings. When the weary survivors of the fight climbed aboard the waiting transports a month later, 750 of the original battalion were dead, wounded or missing. But, three days earlier, when organized Japanese resistance was officially declared at an end, this battalion was still fighting.

That, however, is far from being the whole story. At the end of the first day of fighting on Iwo, the situation looked hopeless. Four officers of the battalion staff had been killed or wounded and another had left to take command of a rifle company which had lost its leader. The executive officer had been detached to take over another battalion whose CO had been wounded.

IN the rifle companies of the battalion, the story was equally grim. One of them had lost *all seven* of its officers before nightfall. Another had lost its commander and two other officers while the third was missing two of the officers who had landed with it that morning. Casualties among the enlisted men were almost as appalling.

In such a position, almost any unit might have been forgiven had it cried for help and withdrawn. But, because of the tactical mission of Joe Chambers' battalion, any such move on his part would have imperiled the success of the entire operation, and the battle for Iwo, instead of a great triumph for United States forces, might easily have become

A good many men of the 3d Battalion didn't make it all the way to the objective.

the most disastrous tragedy of the entire war. They had to stay.

They stayed.

The history of this magnificent fighting battalion did not begin in the Marshall Islands or the Marianas, where it had fought before going to Iwo. It started back in the summer of 1943 when the 25th Marine Regiment was organized and LtCol Justice M. Chambers of Huntington, W. Va., was named commanding officer of its 3d Battalion. The officers and men of the original battalion, unable to foresee what they were destined to undergo on a tiny dot of land in the Volcano Islands almost two years later, soon thought they had discovered the meaning of hell on earth right down in New River, North Carolina.

Colonel Chambers, called Jumping Joe by those who learn his training methods the hard way, is known throughout the Marine Corps as one of the finest guys and one of the toughest commanding officers in any man's army. He didn't waste any time letting the members of his new command know where he, and they, stood.

Jumping Joe had no sooner assumed command than he called together his officers and said, in effect, "Gentlemen, I believe in play on the weekends and work during the week. I enjoy hitting the spots and standing up to the bar for a tall cool one as much as any of you. But, gentlemen, we are going to war. And when we get there, we are going to be ready."

A reserve officer, Chambers is as much a marine as any man who ever lived. Handsome, good-natured and rather young for his rank (especially since he is a reserve), his credo can be summed up in two words, "mental conditioning." Close order drill? Fine for peacetime and for garrison troops. Weeks on the rifle range? Well, a man certainly had to be able to shoot, and to hit what he was shooting at. But "mental conditioning," that was the stuff.

Joe Chambers was determined that his battalion was going to go through as much morale-breaking, nerve-wracking drudgery and downright misery as he could possibly devise without actually calling out the artillery to fire at them in training. He succeeded.

ANYONE familiar with the marine reservation at New River can testify that Colonel Chambers couldn't have picked a better spot to put his ideas into practice. It's called Camp Lejeune now, after a famous marine general of World War I, but to the men who helped build it while training on it back in the early days of the war and before, it's still New River, the crummiest, lousiest hole on the face of the earth. And just about the best training spot for Pacific warfare in the U.S.A.

It contains more snakes, bugs, swamps, impenetrable thickets and genuine jungle than any other area of its size in the country. The 3d Battalion, 25th, spent all week every week in those swamps and jungles, rain or shine.

Every Monday morning, at eight o'clock, if you were watching, you might have seen those men strutting along the paved roads of the camp, headed for the field. If it happened to be raining so hard that you could barely see 15 yards ahead, you probably would have been watching from the shelter of one of the green beaverboard huts in which the combat troops at New River lived; but you would have seen them just the same. Perhaps they weren't strutting, but there they went. It didn't rain hard enough to keep Chambers' outfit indoors.

And any Friday afternoon, late, these same men could be seen tramping back to their living area. Maybe not quite so jaunty, not as cocky as they had looked five days before. In fact, usually looking just plain miserable. They had just come back from five days of living in mud, eating in mud and sleeping in mud (when they slept, which wasn't every night by any means).

And what did they have to look forward to? A weekend's liberty (and the night spots in Jacksonville, the only town within easy reach, are not the type that will ever come to the attention of Lucius Beebe), then right back to the swamps. Their schedule was as dependable as sunrise and sunset. And even in New River, where the weather does weird and mysterious things, sunrise and sunset were usually on time.

There were those who said that the colonel was driving his men to revolt. It's likely that they came within an inch or two of rebellion on more than one occasion during those first few weeks. But gradually, and seemingly miraculously, they began to get the idea. They still didn't care much for it but they began to realize that there was a reason for it besides just a diabolical desire to make them all very, very unhappy.

When, late in 1943, the regiment moved to Camp Pendleton, preparatory to shipment overseas, there was a great deal of excitement over the prospect of having a decent liberty town fairly close by. Los Angeles! The fabulous L.A. Whatever else they may have to say about Southern California and its inhabitants, most marines agree that you can't touch L.A. for liberty.

But the 3d Battalion was still going to war. And it was still going to be ready. The routine didn't change. Five days in the field every week. L.A. was there. But Joe Chambers' men didn't see much of it.

Most of the officers and a good many of the men had their wives with them on the coast. Those moments at home were becoming more precious as the trip overseas loomed closer. But while their comrades in arms in other units were getting home four or five nights a week with only an occasional lengthy period in the field, Chambers' troops saw their wives on weekends only.

Did they resent it? You bet they did. Is there

There was no cover, no concealment as they moved out to attack the high ground.

any one of them now who wouldn't put his arm in the fire up to the elbow for Joe Chambers? It's not likely.

As Capt Jim Headley put it after the Iwo campaign (in which his exploits had gained him fame throughout the division), "We were taught by the master. He spoke of 'mental conditioning' and at first we thought it was just a pat phrase to explain a lot of unnecessary hardships. But he showed us what it meant and I am completely convinced that this battalion never would have made it through those first days on Iwo if it hadn't been for Chambers' training."

THE men of the battalion took a good deal of ridicule from members of other units. They were always ragged, almost sloppy. They didn't have much time for doing laundry and their utility clothes needed replacement every three or four weeks. At marching and drill they weren't very proficient. They never practiced except on their way to and from field exercises. And there isn't much precision to be acquired while marching through ankle-deep mud. They were probably the least snappy outfit in the whole Marine Corps, an organization which prides itself on its ability on the drill field.

Gradually, however, their embarrassment at their shortcomings changed to a sort of fierce pride and a burning conviction that they were members of the roughest, toughest gang in the war business. It's possible that they weren't the best battalion in the Marine Corps, or in the Fourth Division. But you couldn't have convinced them of that. And, brother, that counts!

Colonel Chambers' ready-for-war battalion didn't get much action in the Marshalls, where the 25th was assigned what turned out to be a fairly easy task during the landings at Roi and Namur. The whole thing was finished in two days and it looked as if all the training had gone to waste, at least as far as that operation was concerned.

They sat on the tiny island of Enubirr for 30 days while the rest of the division returned to an advance base. When they finally returned to that "rest camp," they were quarantined as a result of an epidemic of dysentery which had attacked the entire regiment.

Finally, the epidemic ended; the unpleasant symptoms of that most unpleasant disease were no longer in evidence and the men were ready for liberty. Well, a little, of course. But, as soon as every member of the battalion which Joe Chambers had determined was going to be the best in the Pacific got a chance to blow off a little steam, back they went to the old routine. More "mental conditioning." And they kept it up until they shoved off for Saipan.

In the Marianas, the 3d, 25th, came into its own. With the youthful West Virginian in the lead, they established a reputation which won them publicity in *The Leatherneck*. The author of that article made the mistake of referring to them as Chambers' Raiders, a nickname they had acquired during their incessant sojourns in the bush back in the States.

This sobriquet did not fall too pleasantly on the ears of MajGen Clifton B. Cates, the division commander. General Cates wanted it made clear that this great fighting organization was an ordinary rifle battalion of the Fighting Fourth, and not one of the marine raider battalions which had won fame during the first year after the Japanese attack on Pearl Harbor.

If you think that, after leaving the Marianas, the men finally got a well-earned rest, it simply indicates you haven't yet begun to realize that Joe Chambers didn't believe in letting up. Incessant training was his watchword and it didn't cease after a successful campaign against the Emperor's soldiers. It was New River and Camp Pendleton all

(*Continued on page* 57)

Tank-Infantry Team

Coordination of these two arms is the result of trial and error in combat. Here is a distillation of valuable information gained in the European and Pacific campaigns of World War II.

By Capt L. G. Lawton

ALL during World War II stress was placed upon the need for supporting weapons. When the United States entered the war, it had a very successful supporting weapon in the form of artillery, but the trend of battle showed the need for a weapon which could operate closer to the infantry—a weapon which infantry could direct and control—and from this need came the tank-infantry team. These two arms working together became such a great offensive power that it was seldom, if ever, heard that tanks had taken a town without the support of infantry, or that infantry had captured an objective without the support of tanks; and yet in every campaign most objectives were taken by tanks and infantry operating as a team.

It is important in approaching the subject of tank-infantry cooperation to know the history of its development. Tanks came into being in World War I. They were the big secret weapon the British had so carefully developed. The year was 1917; the place, Cambrai on the Western Front. The British had 378 tanks to lead six infantry divisions in a large-scale attack. The terrain had been carefully selected, surprise was achieved, and the Germans fell back in confusion; yet what appeared to be a major breakthrough turned into a somewhat hollow victory. The British were not able to hold the ground the tanks gained. The answer was that the infantry was not following closely enough behind the tanks. When the tanks withdrew to refuel and rearm, the Germans moved back into their positions because the infantry was not on hand to hold the ground the tanks had gained. The experience gained from this engagement was not capitalized upon, and, as a result, World War I ended without tanks playing a really major role.

The next time tanks were brought into prominence was when Italy attacked Ethiopia. The late Il Duce spent many sleepless nights wondering why the poorly armed, poorly trained Ethiopians were able to knock out his tanks. The answer again was that the tanks had no infantry protection, and Ethiopian foot soldiers made quick work of disabling them.

World War II came next. American observers had seen the results of German and British infan-

The infantry and tanks working together as a team form a great offensive power.

try and tank attacks and tried to capitalize on the mistakes of both. When the United States entered the war, however, it still had not learned how important it was for tanks and infantry to work and train together. The first time tanks were used was on Gavutu. They were destroyed almost immediately by Jap infantry.

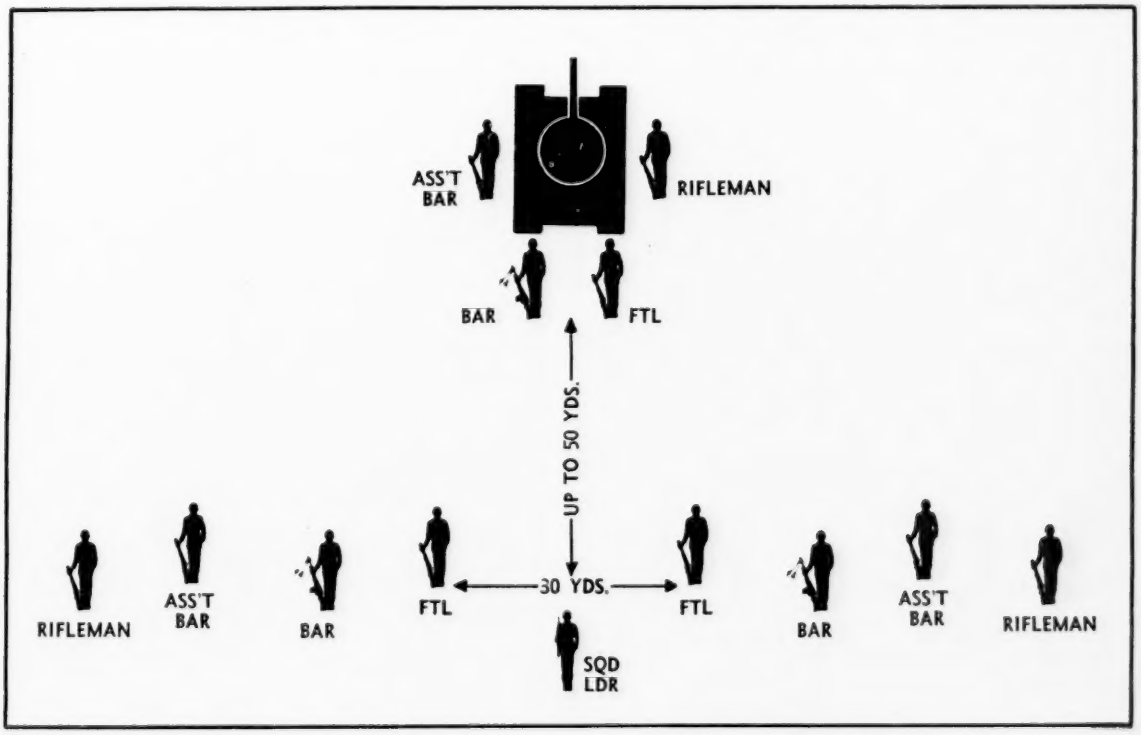
In the first battles it became apparent that training of tank-infantry teams was essential, and all means were pointed toward that end. The results of this training were excellent. The number of tanks knocked out by enemy tank hunters was reduced to a minimum. Battalion, regimental, and division combat reports from the later actions highly praised the tank-infantry team. One division reported that *no* tanks were a total loss due to enemy tank hunters in two operations. The only lack of coordination occurred in the late stages of a campaign where it was necessary to use infantry replacements, for they were often not sufficiently trained to work with tanks.

Tank-infantry procedure is the result of trial and error in combat. In every campaign from Guadalcanal to Okinawa, valuable information was gained concerning tank-infantry teams, and from these battles are drawn the author's opinions herein presented.

In order to protect tanks from enemy tank hunters and foot soldiers, it is necessary for the friendly infantry to adopt certain formations. The squad is normally assigned the mission of protecting the tank. The key to the type of protection that should be used is visibility. In terrain where visibility is poor, such as jungle, woods, tall grass, or where fog or smoke hinders visibility, the squad must give close physical support (see Fig. 1) to the tank. This formation keeps one fire team very near the tank at all times and still does not expose the squad to mortar fire. The remaining two fire teams follow the tank on line or squad wedge from 40 to 60 yards and are to the rear, depending on the terrain. Scouts are not used in front of tanks. The tank is blind, and too many men are hit by the fire of friendly tanks when used as scouts; also scouts become prime targets for the enemy.

In open flat terrain, where visibility is good, it is possible to protect the tank by small arms fire (see Fig. 2) up to ranges of 150 yards. The squad protecting a tank in this manner must continue to move behind the tank by fire and movement so that the tank will not be further than 150 yards from the squad at any time and so that at least one fire team is covering the tank by fire at all times.

In flat open terrain or in a situation where there is good observation of ground around the tanks, they may be protected by long range small arms fire and artillery time fire (see Fig. 3). In such a case *no* infantry moves with the tank. All weapons fire around the tank so that no enemy foot troops can approach it. The artillery will fire air bursts, which will keep shrapnel around the tank for further protection. The tank, with long-range fire



Close infantry tank protection: formation to be used when the visibility is poor.

protection, can move as far to the front as the range of the weapons and visibility of the protecting troops will allow.

Infantry may ride on a tank when it becomes necessary to move troops rapidly through a break in the enemy's MLR, or when tanks are on an armored reconnaissance patrol. The infantry (six to eight men on a tank in the latter case, and any number up to 13 in the case of exploiting a breakthrough) will observe in all directions constantly so that no enemy foot troops can attack and disable the tank. Whenever the tanks are forced to stop, the infantry will immediately dismount and prepare to fight on the ground.

As the attack advances, the squad leader may have to change the method of protecting that tank in his area as the visibility and situation demand. The squad leader whose squad is protecting the tank is responsible for maintaining the proper method of protection.

Tanks and infantry are often called upon to fight together in towns. Street fighting is a separate and highly technical type of warfare, but a brief discussion of tanks in street fighting will round out the picture of tanks and infantry in the attack.

When infantry is attacking a well fortified town which is being strongly defended, tanks may aid them greatly by firing on targets from well behind friendly lines; but it is not advisable to have them advance with the assault infantry. It would be very simple for the enemy to attack the tank with Molotov cocktails from roofs, or with bangalore torpedoes from cellar windows and doors. Also a tank has no room to maneuver in a city street, and thus becomes very vulnerable to AT fire.

When the infantry is mopping up a town and only sniper fire or very light resistance is being encountered, tanks can be used to great advantage in the assault echelon. In such a case the infantry must assign a fire team to remain near the tank and observe around it constantly.

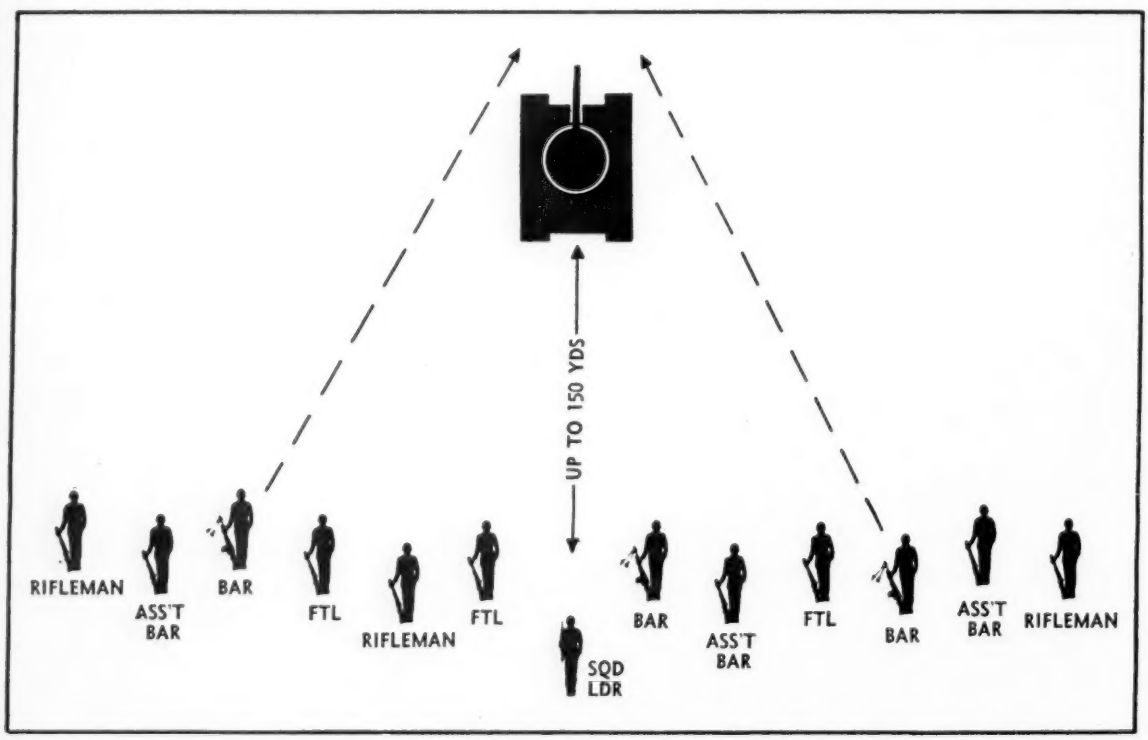
Infantry units can communicate with tanks by TCS jeep or SCR 300, but these radios are not available to the squad and may not be available to the platoon.

The sound-powered phone is the main link between infantry and tank units. It is located in an armored box on the right rear of the tank. A few general rules for using the phone are:

1. When receiving fire, take cover while talking over the phone. There is sufficient wire to allow movement to either side or to hit the deck.
2. Talk slowly and distinctly so as to be understood.
3. When finished with the phone, put it and the wire back in the box and close the box.

When a tank is not receiving fire, it can be directed by arm and hand signals. The same arm and hand signals used by infantry units can be employed with tanks to change direction, halt, move out, cease firing, etc.

Tanks may need to get in touch with the infantry.



Short range fire protection: to be used when terrain is level, visibility good.

A system of flag signals may be used. The tank can fly different colored flags from its turret. Typical flag signals are: blue flag—tank wants infantry to answer the sound power phone; white flag—the infantry can advance in front of the tank; purple flag—the tank must leave the infantry. (This may be for any reason such as repairs or refueling.)

THE infantry is responsible for more than protecting the tank; it must also designate targets for the tank. The tank commander wants to know the range, direction, description, and whether or not the infantry can observe his fire. Direction is told by the clock system with the bow of the tank facing toward 12 o'clock. An accurate description of the target should be given so the tank commander will know what type of ammunition to use.

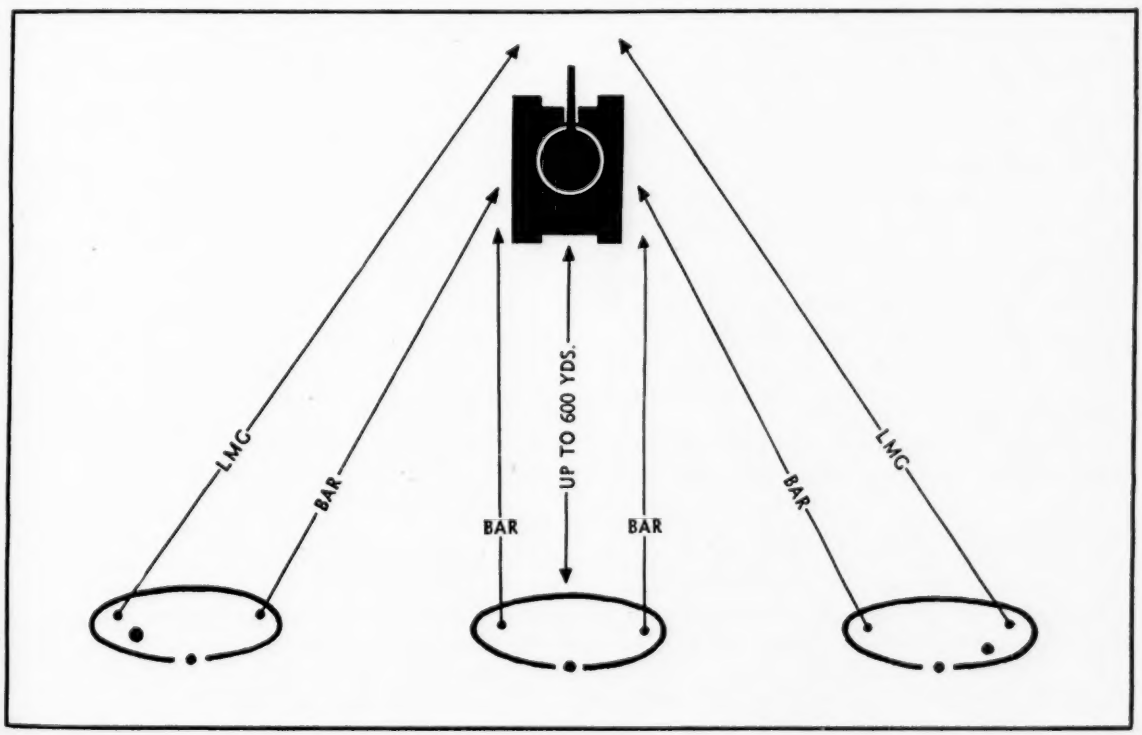
When a tank is buttoned up and contact by radio or phone is not available, targets may be designated by turning one of the tank's periscopes in the direction the infantry desires the tank to look. An infantryman must place his hand in front of the periscope and point to the target.

If infantry can observe the fire of the tank, the tank will fire tracers from its co-axial machine gun, and the infantryman can adjust the tracer fire until it is on the target and then call for the 75mm gun to fire. This conserves 75mm ammunition.

Targets may be designated by the use of rifle or hand smoke grenades. If the target is difficult for the tank to locate, the infantry must scout out the target, locate it definitely, and then shoot or throw a smoke grenade on the target. This gives the tank an aiming point.

Tanks have many capabilities and can aid infantry in numerous ways, but they also have definite limitations. It is the responsibility of the infantry to bridge the gap between the capabilities and the limitations of the tanks.

Tanks can aid infantry by reducing pillboxes and automatic weapons with their heavy fire power; they can make passages through barbed-wire entanglements and other infantry obstacles; they are capable of covering the infantry's advance by fire even after the tanks have been held up. They have speed, shock, and weight to crush the enemy, and yet all of these advantages are useless unless the infantry can escort the tanks safely to the enemy positions, for tanks are blind; their fire is not accurate when they are moving. Their supply of ammunition is limited. They are hard to control and are sensitive to terrain; they cannot cross a stream more than three feet deep (unless they are especially waterproofed); nor can they climb a hill steeper than 30 degrees. Thick woods, stumps, boulders and swamps limit the maneuverability of tanks so as to render them at times practically useless. However, the infantry can and must be the eyes for the tanks. It must control the fire power; it must not let the tank enter terrain which handicaps its maneuverability. Infantry can direct the tank by radio and by telephone. It must locate AT



Long range fire protection: to be used without infantry when visibility is good.

guns and mine fields by reconnaissance and thus prevent unnecessary tank casualties.

THERE is some controversy concerning the attaching of tanks to infantry units. It is felt by many military leaders that attachments should not be made below the company echelon. However, the nature of operations in the Pacific theater required such precise cooperation that it was sometimes necessary to attach a tank to a squad. This, of course, was the exception to the rule, but attaching tanks to a platoon was not uncommon.

Regardless of to what unit tanks are attached, there are certain fundamental decisions which must be made prior to the attack. These decisions must be made by the infantry unit commander to which the tanks are attached, but they are made only after consulting the tank unit commander.

First of all it is important to decide the disposition of the tanks—how each tank is to be employed, whether in the assault or as a covering element. Next, it is absolutely essential to pick out routes of advance forward for each tank. It is, finally, necessary to decide what the tanks will do upon reaching the objective. There are three alternatives for tanks once the objective has been reached. They may overrun the position; they may halt in hull defilade and fire to the front (after reducing automatic weapons) to cover the infantry assault and the reorganization; or they may do either of the first two missions and then return to a rally point in complete defilade where they can hold their own reorganization.

If the objective is a hill, it is not wise to overrun the position, for so doing will expose the tanks unnecessarily to AT guns on the reverse slope. It is usually a good policy when attacking a hill to have the tanks halt in hull defilade. This protects them from surprise fire from the front and shortens the gap between them and the protecting infantry. Stopping in hull defilade, however, has its disadvantages in that the tanks are exposed to artillery fire. If they do receive artillery fire, the tanks must be brought back to a rally point in complete defilade. It follows logically that if the enemy defensive position is on flat ground the tanks should overrun it and then return to a rally point.

Once these decisions have been reached, the infantry unit commander to whom the tanks are attached must include them in paragraph 3 of his combat orders. Lower unit commanders with whom the tanks will operate, but not in an attached status, must include tank information in paragraph 1 (b) of their combat orders. It is vital to the success of the attack that every man know the details of the tank's movement. By knowing the routes of advance, and by knowing what to expect of the tanks on the objective, subordinate commanders can plan the types of protection to give the tanks and can plan their own security and reorganization.

The tank-infantry team does not only function on the offensive, but on the defensive as well—specifically, in rear guards, delaying actions and counterattacks.

Delaying actions and rear guards follow the same general principles for the infantry-tank team in attack. When tanks are sent on such missions the infantry will probably accompany the tanks by riding on them as previously described. If the infantry does not go with the tank, it should, if at all possible, cover the tank by long-range fire.

Once a counterattack has been launched and the enemy has been contacted, it is imperative that the infantry give close physical support to the tanks at all times. The confusion is so great during the counterattack that protection by fire would be ineffective and would probably result in the shooting of some of our own forces.

THE tank-infantry team must be prepared to cope with any antitank defenses. The infantry must locate and point out enemy AT guns and tanks. When the enemy lays smoke around our tanks, the infantry must move in closer to protect the tank. If the enemy attacks the protecting infantry with mortar fire and artillery time fire, the infantry must protect the tank by fire. Regardless of enemy defenses, the infantry must always protect the tanks, either physically or by fire. The tanks must protect the infantry with their armor and fire power.

The careful and combined training of these two arms to insure success in combat is a problem requiring continuous and thorough application of the principles underlying tank-infantry team cooperation. To this end every member of the team must understand and appreciate the capabilities and limitations of its component parts.

All Collectors of Internal Revenue have been instructed to give veterans every consideration permitted by law in clearing up any back taxes which some of them owe. Many, if not most, of the men and women of the armed forces owe no past taxes. Usually, where a veteran has some unpaid taxes, they were incurred before entrance into the armed forces or they resulted from civilian income received in addition to service pay. Tax was incurred on service pay only when it exceeded $2,000 per year ($500 personal exemption plus special $1,500 exclusion of service pay). Veterans and returning service personnel in general who have any Federal tax problems are invited to consult local collectors.

17-Man Squad

Addition of four men would provide strength for an effective fighting unit despite heavy casualties, allow for trained scouts and the introduction of small light automatic weapons.

By Maj William C. Chamberlin

SINCE no military force is ever solely composed of a single arm or type of weapon, the basic aim of military organization is to mold the different arms into a team. The fundamental test to be applied to any Table of Organization is whether or not it accomplishes the best or optimum relationship between the different types of units and weapons. When a military force takes the field against the enemy, a second test, whether or not this optimum relationship will long endure, is applied.

Casualties not only reduce the combat efficiency of a military force by decreasing its size, but they also greatly impair the optimum relationship between the various arms. If the incidence of casualties fell with equal proportional weight on all arms, this latter effect would be of little consequence. Such, however, is not the case. Certain arms are affected far more than others. If the optimum relationship is achieved at the beginning of an operation, then the variation in the incidence of casualties will rapidly impair this relationship. Tables of Organization, then, should not be solely designed to create a well-balanced force with which to enter combat, but, drawing on our knowledge of the incidence of casualties in the past, they should be designed to maintain this well-balanced relationship between the various arms for the longest possible period.

From bitter experience we know that the infantry bear the brunt of the casualties in battle. Statistics of past campaigns indicate that an American division must expect 80 per cent of its total casualties to come from the infantry. Since infantry regiments comprise approximately half of a division's total strength, the proportion of casualties to strength is about four times that of the average for non-infantry troops.

To let the above statement pass, however, would be to paint too bright a picture. Casualties are not spread uniformly throughout the infantry regiment. Proportionally, the casualties are higher in battalions, and still higher in rifle companies. It is the men serving with the rifle platoons and squads that stand the greatest chance of being hit. BAR men, rifle men, and squad leaders compose about 60 per cent of all infantry casualties. The rifle platoons, which comprise roughly one-fifth of a division's total strength, suffer almost half the division's casualties. Their proportion of casualties to strength is about ten times that of the average for non-infantry troops.

Almost invariably, the critical factor governing the combat efficiency of a division in the attack will be the strength and efficiency of its rifle platoons. These provide the shock troops which, in the last analysis, must drive the enemy from his positions. They are the critical factor, because, sustaining the highest rate of casualties, they are weakened faster than the other arms.

The Table of Organization, therefore, should not only provide for a well-balanced force, but should meet, as far as possible, the problem created by the heavy incidence of casualties on the infantry shock troops. While it is obvious that a great portion of the answer lies in a well conceived replacement plan, nevertheless, the Table of Organization can go a considerable part of the way in meeting this problem. Rifle platoons must be provided in sufficient strength to guard against their too rapid decimation. The necessity of bringing up replacements to units actually engaged in front line combat must be prevented in the future.

ASIDE from the problem of casualties, there are certain other questions which the organization of our small infantry units must answer. The organization of the marine infantry squad into three fire teams resulted in a considerable improvement in control. Any revision of the Table of Organization, then, should retain the four-man fire teams in order to assure the highest degree of control. Despite the excellence of control, however, the present squad organization has two definite weaknesses that should be rectified. One has to do with automatic weapons; the other has to do with scouts.

The marine infantry squad provides no base of fire to support the movement of its three maneuver elements. BARs cannot be employed together to form a base of fire without destroying the tactical integrity of the fire teams. Covering fire may be rendered to assist one element of the squad only by employing another fire team for this purpose. This makes use of only one-third of the BARs within the squad. The base of fire in this case consists of one BAR and three rifles rather than two or three automatic rifles.

There is very little argument that may logically be advanced against the desirability of having a base of fire within the squad to support the maneuver elements, for its fire may be quickly adjusted and is subject to more immediate control than the fire provided by the machine guns of the company. With the exception of the marines, all infantry forces, both in our own and foreign armies provide a base of automatic fire within the squad.

The present Table of Organization has diverted

the BAR from its designed use. Instead of being used with the bipod to deliver a volume of covering fire to support the maneuver of riflemen, it has come largely to be used in the attack as a sub-machine gun, advancing with riflemen and delivering a large volume of automatic fire at very short ranges. Although there is a great need for a sub-machine gun, the use of a BAR in this capacity is a perversion of its function. The extent to which the weapon has been used in this manner is apparent to anyone who has worked closely with infantry in recent campaigns. Bipods are soon "lost." If the normal use of the automatic rifle were to deliver covering fire, bipods would not as consistently be removed from the weapon, but since this is not the case, they are so much extra weight and are soon "lost" under battle conditions. The BAR is used most widely to fire bursts of automatic fire at very short ranges into caves, bushes and bunkers, and is fired from the prone position only in a minority of cases. During recent campaigns, employed in this fashion, it has rendered excellent service. There has been a definite need for a sub-machine gun type of weapon. In doing this, however, the BAR has been employed in a function in which other weapons would have been more efficient. It is too heavy, too big and too cumbersome to use efficiently as a sub-machine gun.

The present Table of Organization, then, not only does not provide for a necessary base of fire within the squad, but it does not provide for a much needed efficient sub-machine gun. In passing, let us consider just one case in which the squad organization compels action which is not in keeping with our present tactical doctrine.

IN the case of town and village fighting, our doctrine advises against the practice of taking the automatic rifle into a house as it is too bulky and cumbersome for such close quarters. It advises that the weapon should be left outside to support the party entering the house, and to cover the "killing zones" down streets and yards. The doctrine further points out the desirability of carrying a sub-machine gun into the house in order to fire a burst through a door, a wall, or a ceiling. Under our present organization, however, if the BAR is left outside the building, the tactical integrity of the fire team is destroyed, and the team is deprived of automatic fire within the house. If the automatic rifle is taken into the building, it is too cumbersome to use efficiently as a sub-machine gun.

One other disadvantage of the present squad organization is the lack of provision made for scouts. Our doctrine is that scouts operate in pairs. A fire team, however, cannot provide a pair of scouts. Neither the BAR man nor his assistant can efficiently be detailed for this work, and it would seem inadvisable to detail the team leader. It would also seem quite obvious that the best results, either in training or in battle, cannot be achieved by taking single riflemen from different fire teams to constitute a pair of scouts. What has happened, in fact, is that the special training and use of scouts has largely been abandoned. Although the present fire team lends itself admirably to use as a small reconnaissance patrol, this does not lessen the need for scouts.

IN view of the foregoing, it is believed that any revision in the Table of Organization of the infantry squad should consider:

1. The maintenance of the present high level of control by the retention of the present four-man team.
2. The establishment of an adequate base of fire by grouping the automatic rifles in a separate team within the squad.
3. The introduction of some small light automatic weapon (automatic carbine or TSMG) to accompany maneuver elements for the delivery of large volumes of fire at very short ranges.
4. The special training and employment of scouts in pairs.
5. The heavy incidence of casualties on small infantry units, and the consequent necessity of providing a squad of strength sufficient to enable it to continue as an effective fighting unit after suffering a fair number of casualties.

It is believed that a 17-man squad, organized and armed as indicated below, would meet this criterion:

1 Sergeant—Carbine M2 (Auto Carbine) (or Sub MG)

SCOUT-RIFLE TEAM

1 Corporal 1 M1
3 PFC/Private ..... 3 M1 (or 2 M1 and 1 M1c)

RIFLE TEAM

1 Corporal ..... Carbine M2 (or Sub MG)
3 PFC/Private 3 M1

RIFLE TEAM

1 Corporal ..... Carbine M2 (or Sub MG)
3 PFC/Private 3 M1

BAR TEAM

1 Corporal ..... 1 M1 (leader and ass't BAR)
2 PFC/Private ..... 2 BAR
1 PFC/Private ..... 1 M1 (ass't BAR)

The first four objectives set forth might be achieved almost, but not quite, as well with a 13-man squad. In such a case the scout-rifle team would be eliminated. A 13-man squad, however, would fail to meet the problem created by the heavy incidence of casualties on the infantry, and would have certain minor disadvantages implicit in the discussion below.

The inclusion of a scout-rifle team may have certain advantages not immediately apparent. Although any two privates of the rifle teams might be designated and trained as scouts, the provision of a scout-rifle team would emphasize the responsibility for scout training. In addition, one member of this team might well be furnished a telescopic sight and

receive special training as a sniper. A sprinkling of snipers throughout the infantry would be of considerable value. The retention of specially trained snipers in battalion or regimental headquarters may be all very well, but somehow they never seem to be at the right spot at the time they are needed. The arming of the leader of the scout-rifle team with an M1 would permit him to act as a scout, thus providing two pairs of scouts within the team, and would also prevent an over preponderance of automatic carbines in the squad. The arming of the squad leader and the two rifle team leaders with this type of weapon should be quite sufficient.

It might be argued that the 17-man squad is too large for a squad leader to control. It must be remembered, however, that the squad is divided into subordinate units, and the squad leader has only four such units to control. Again, the hard, sad fact remains that in battle the strength of the squad will not remain long at 17 men.

The addition of four men per squad is a 30 per cent increase in squad strength—an increase of 108 men per battalion, or 972 men per division. This increase is entirely in front line combat troops and requires no increase in administrative personnel whatsoever. This approximately five per cent increase in division strength is an addition at the point where the incidence of casualties is heaviest, and should go a considerable portion of the way in meeting the problem of battle losses.

Tank-Artillery on Okinawa

by Maj. L. A. Tomlinson, Jr.

AS artillery liaison officer with a tank battalion, I had my first close contact with this valuable supporting arm while serving with the First Marine Division on Okinawa. I was a bit snowed initially with my order "to support the tanks," but after contacting the tank commander, LtCol A. J. (Jeb) Stuart, we decided on a plan as flexible as possible so we could make improvements as we went along. By furnishing covering time fire, smoke and impact concentrations, based on the normal infantry-artillery liaison setup, it worked out this way.

My battalion, in which I was C Battery commander, was the 1st Battalion, 11th Marines, commanded by LtCol R. W. Wallace, a 75mm pack howitzer outfit. The front lines at that time in our sector were making very slow progress along the Naha-Shuri line, and the Jap defenses could hardly be classified as hasty. The tanks were leading the way, but not without strenuous opposition. Such problems as the highpowered 47mm Jap AT gun, spider traps containing Jap suicide squads with satchel charges, and the evacuation of tank crews from a crippled tank in this heavily mined area, needed immediate attention, and artillery was the answer. We were fortunate in that we had two OPs which afforded excellent observation up to Shuri castle itself and were also occupied by the artillery liaison officer with the assault infantry battalion. There were, naturally, draws and defiles at greater ranges that couldn't be observed, but from an artilleryman's viewpoint, it was good. We planned to use two FOs, one with each regiment on the line, and we selected the best OPs in each regiment's area for them to occupy. For communications we used the SCR610 with remote control so as not to further clutter up an already overmanned OP. Also occupying this OP were the infantry battalion commander, the tank company commander, and as previously mentioned, the artillery liaison officer with the infantry battalion. The tank company commander had his radio on the tank company frequency, so with only a brief relay the forward observer could bring fire to bear on request of the tanks themselves. The forward observer also worked in conjunction with the infantry-artillery liaison officer in coordinating their fires in the same area and they could reinforce each other if need be. My job as artillery-tank liaison officer was to select OPs, to visit each OP and to advise the tank commander each evening for the next day's operations.

Our fires consisted chiefly of smoke missions to aid withdrawal and time fire. On several occasions as the tanks were operating up Wana Draw, we employed smoke to great advantage. By correctly placed smoke rounds, we obstructed enemy observation and effected the transferring of the crew from a tank crippled by land mines to a relief tank without a single casualty. For the assault on Dragon's Tooth Ridge, we employed smoke in the same manner and also used time fire effectively. Covering time fire was accomplished by adjusting for height of burst as the tanks proceeded out—keeping it 30 yards in the air and thereby discouraging the Jap suicide artist with satchel charges. With the height of burst at approximately 30 yards, we reduced the number of graze bursts, and a medium tank is safe from all but a direct hit from a 75mm pack howitzer. This method could be used only when the FO could observe the tanks from an OP and adjust for height of burst; otherwise infantry fire teams would accompany the tanks and the FO employed impact or smoke for his needs.

The chief advantages, we concluded, were giving tanks their own much needed artillery for their immediate use and having an FO assigned directly to them who became familiar with tank capabilities, limitations and needs. The system was direct, avoiding complications, and yet flexible enough to afford the infantry reinforcing fires through the liaison officer when the tanks were not operating. **END**

Is Air Support Effective?

Intelligently used, close air support can be of great value. It takes its place along with artillery, naval gunfire, tanks and rockets as an effective supporting weapon.

By Capt Holt McAloney

HOW effective is air support?

Definite results have, as a rule, been difficult to state, because naval gunfire, artillery and other supporting weapons have been brought to bear, and when our troops have advanced into the area of a strike it is impossible to say this and that have been the results of air support.

It is sufficiently rare for air, and air alone, to be teamed with ground troops armed only with light weapons, to warrant studying the results and evaluating the effectiveness of air as a close support weapon. Such a situation existed in the early days of the Luzon campaign in the areas held by LtCol Russell Volckmann's guerrillas. These troops had no artillery, no tanks, not even 37mm antitank guns. Rifles, automatic rifles, a few machine guns and a few mortars were all that they had. It was arranged to give them close air support.

Marine dive bombers were doing a great amount of the close support work in Luzon while the AAF planes were pounding Formosa and the islands to the north. Since the marine groups had specially prepared air liaison parties which were successfully directing dive bombers onto targets in the Manila area, the 208th Bomb Wing (administrative organization for the Fifth Air Force in Luzon) requested that marine AL parties join the guerrillas of North Luzon to arrange close air support missions. Three officers, three enlisted men, a radio jeep and a radio truck were run up the coast and put ashore some 50 miles behind the Jap lines at LtCol Volckmann's headquarters. Three of the strikes prepared and directed by them give an opportunity for evaluating close air support.

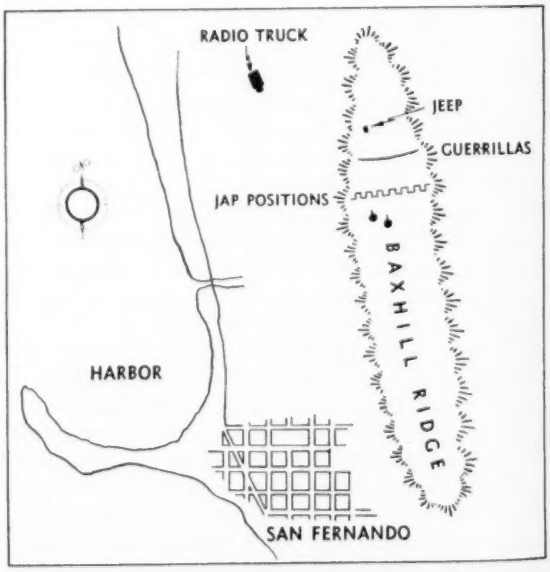
Just east of the Jap-held port of San Fernando, La Union, the USAFIP* had gained a foothold on the northern part of Baxhill Ridge. This ridge ran north and south, and should the Filipinos be able to seize the entire ridge they would hold a line on a commanding feature dominating the city from the east. However, the Japs were well dug in on the ridge, and held the highest parts of it. The ridge, being bare, offered little cover to troops advancing down its length. With no supporting weapons to assist them, the guerrillas were stopped. With the arrival of the marine air liaison parties, the possibility of using air support in this situation was immediately realized.

First of all, the bolo men cut a trail from the valley to the north, up to the top of the ridge, and under cover of night literally dragged the radio jeep up to the top, concealing it behind a rise in the ground about 50 yards from the front lines. A remote control was run from the jeep to a good observation post at a high point just behind the dug in troops.

The evening previous to the proposed strike, a marked aerial photo was flown by an L5 down to the 308th Bomb Wing, and a written summary of the plan was attached. From this information the pilots were briefed for the strike.

The radio truck was moved down from the USAFIP headquarters to a position in a field a few miles from the ridge and so located as to have excellent radio transmission and reception. This unit was to act as the master link between the air liaison party with the guerrillas and the air base 50 miles or so to the south. It could also be a stand-by relay should the radio jeep experience transmission weakness. The final arrangements consisted of laying out a large "N" and "L" in panels between the jeep and the front lines, and having the front line troops lay out panels across the ridge at their position. Although these panels were devised from white sheets and miscellaneous cloth, they were easily seen by planes.

The first strike to arrive consisted of 12 army A20s. They reported to the truck by radio as they approached the area and were vectored to the



Air support plan in Baxhill Ridge attack.

*United States Armed Forces in the Philippines—official name of the guerrillas.

ridge. The first move was to assist them check the position of friendly and enemy troops. As the planes flew from north to south above the ridge, the flight leader reported to the jeep all that he observed:

"I see a jeep, then Nan Love panels, then a line of white panels."

This showed that there was no mistake in his identifying the friendly front lines. From this reference the Jap positions were described by radio.

All was now set for the strike. Running from north to south at a minimum altitude in three plane sections, the planes released 100-pound parafrags to hit less than 200 yards beyond the front line panels, and at minimum intervals on down the ridge. The result was a complete plastering of the entire ridge and the Jap entrenchments for 1,000 yards ahead of the Filipinos. At the completion of the bomb runs the planes returned and made very low altitude strafing runs, starting in hardly 100 yards ahead of the guerrillas and raking the ridge for a little over 1,000 yards. After three or four live runs were made by the planes everything was set for the troop advance.

A prearranged signal was given the troops—three mortar shots in rapid succession. The planes were informed by radio. The men came out of their holes and charged and the planes skimmed over their heads in dry runs. An advance of 1,000 yards was made, to the first objective—a high point on the ridge—*without a casualty*. Dead Japs were found, and much abandoned equipment was captured.

The planes spotted about 50 Japs retreating off the ridge, and after checking with the air liaison officer to be sure they weren't friendly troops, proceeded to strafe them, killing and scattering the lot.

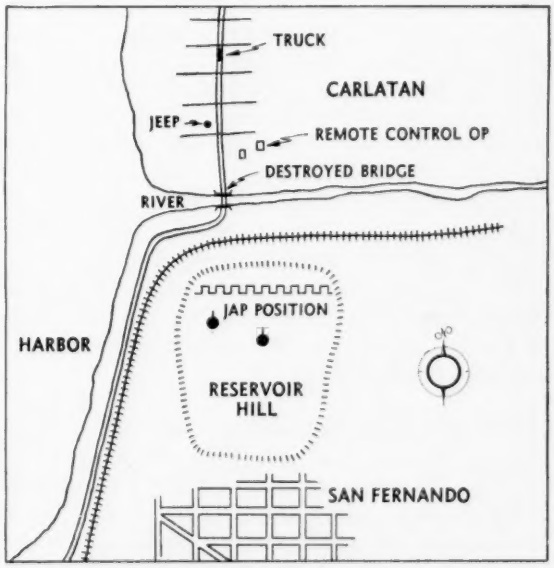
When the planes left, Jap fire began to inflict casualties, and a call was put through (via the truck) for more planes to silence this fire and to help the troops continue the advance. It was readily proved here how helpful it would have been to have about three planes on station throughout the day. During an advance, when the situation is fluid, one of the prime values of air support is the speed by which its striking power can be brought into effective play with each change in the situation.

SEVERAL hours later dive bombers were sent. Jap positions and deep entrenchments on several knolls commanding the center of the ridge were pounded by 500 lb. GPs, then strafing and dummy runs were again employed to move the troops up onto these positions successfully. Also, one section of the planes was "talked" onto a group of houses in the valley below the ridge into which alert Filipinos had seen stragglers of the Nips withdrawing. Due to difficulty of target designation with the maps that were being used, the planes were directed to these houses by having them fly down the highway, telling them which side road to turn up as they flew over it and which houses the Japs were in by calling them as the planes passed over them. Final correction was made from a strafing pass of the flight leader, and the section of planes then came in for three hits in the five ring.

At the end of this day, there was no doubt in anyone's mind as to the accuracy and effectiveness of planes in air support when there was good communication between the planes and someone close to the front lines who could direct the planes and who could coordinate planes and troops.

In the second phase of the battle for San Fernando, planes again played a vital part. This was just north of the city, where the Japs were well entrenched and had artillery and pillboxes on Reservoir Hill. The guerrillas had taken the little town of Carlatan and forced a crossing of the river south of it, but were faced with the task of storming the wooded hill which was filled with well built defenses. A battery of artillery might have enabled them to do it, but two mortars and two 50 caliber machine guns couldn't handle the situation.

Again a detailed plan was flown to the air base, while the radio jeep and truck were moved down to the scene of the attack. A score of guerrilla roadblocks had to be cleared to enable this equipment to get through. The truck was placed in as safe a spot as possible in the center of Carlatan, and it established communication with the planes as they came up for the strike. The jeep was moved to the very south edge of the town, and remote control carried up to the porch of a house commanding a good view of the hill (and within sight of the Japs). While this was being set up, the flight leader of the dive bombers on station made a thorough reconnaissance of the hill and accurately located a reported gun position. The



Second phase of battle for San Fernando.

officer at the radio truck gave him clearance to put a section of planes on this target and it was effectively knocked out.

The first series of missions for the planes was one of knocking out the remaining known gun positions on the hill. These positions could not be observed from the front lines, but their approximate location was known from the checks made of source of fire. Filipino officers pointed out these general locations on aerial photographs. Verbal descriptions of them were transmitted to the flight leader who then went down and searched from low altitude. As he found each one, he would lead a section of SBDs onto them and knock them out.

Shortly after the dive bombers went into action, 15 P51s reported in to the radio truck. They were asked to orbit until the bombing was completed. Guerrilla troops had been pulled back to the river, and had taken shelter behind the river bank. This allowed the final run of bombing to be made parallel to the river and against the crest and side of the hill. Although 500 lb bombs were dropped around 100 yards from friendly troops (fragments even landed on the jeep across the river), no friendly troops were injured because of the clearness of their position—the river—and the care that had been taken to keep them below the river bank.

Immediately after the bombing the Mustangs were brought in with all eight 50s blazing. The entire face of the hill was covered by repeated runs. Pilots reported spotting pillboxes on the steep face of the hill and flew in at them so low that they had to zoom sharply to clear the crest of the hill. Again, a prearranged signal of mortar shots was used to start the troops advancing, and the planes were told by radio to make dummy runs. These were made as low as the previous ones and the troops started up the hill without receiving any Japanese fire.

To keep the Nips buttoned up, several live runs were made along the top of the hill, a few hundred feet above the heads of the troops. The planes were carefully told of the movement of friendly troops up the face of the hill, and not once did they jeopardize the Filipinos.

What planes could take that day, lightly armed men could not hold. That night, Jap artillery from the south of the city of San Fernando pounded the newly won heights, and Jap troops, infiltrating through the bamboo thickets on the top and south of the hill, moved in. So two days later the job was done again with additions.

TWO days later, the same general setup was arranged, except that the P51s came carrying napalm. The bamboo groves would be removed, along with the reinforced enemy troops on the top of Reservoir Hill. When the USAFIP forces got to the top of the hill this time they could dig in and be better able to block infiltration. Dive-bombing, fire-bombing and strafing were all used effectively, and again the little Filipinos took the hill which commanded San Fernando from the north.

Another strike with the guerrillas gives a picture of the effectiveness of close support. This strike was one arranged for a remote battalion, far to the north. It was impossible to get radio equipment to them to enable the strike to be directed verbally. The plan and its coordination with both air and ground forces had to be worked out well in advance.

THE Japs held a concrete building at a ferry crossing of a river. The troops in this building consequently had command of the river, the road and the crossing. They had cleared the ground of all vegetation for 200 yards around the building, and then encircled the clearing with barbed wire. Trenches and rifle pits were dug just outside the building, and 37mm guns were mounted in the building. The guerrillas could come through the woods up to the barbed wire but couldn't possibly cross the open ground to rush the building. They had no mortars, no machine guns—merely rifles.

LtCol Donald Blackburn, who commanded the guerrillas in that far northern area, was flown down to USAFIP headquarters in an L5, and the plans were laid. He flew back and then sent his orders to his outlying units. It took two days for runners to get to units, and troops were brought secretly to the woods beyond this Jap garrison of 150 men.

A marine air liaison officer flew to the 308th Bomb Wing headquarters with marked maps, guerrilla sketches and the timetable set up for the action. Napalm and HE were decided upon as the weapons to be used.

At 0930 on the day decided upon, the planes, en route to the strike, radioed to the air liaison party as they passed LtCol Volckmann's headquarters. Promptly at 1000 they struck. The guerrillas rushed in as soon as the last plane wobbled its wings, showing the strike was over.

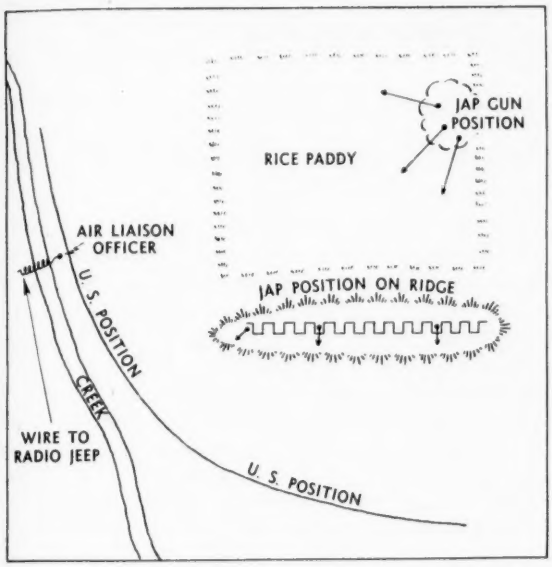
At USAFIP headquarters the planes' message on their return merely stated, "Even the foxholes were burning."

It took a runner 24 hours to carry a message from the fighting battalion to the nearest guerrilla radio. The message that was sent to headquarters said, "Of the 13 who were still alive, we have killed seven and are hunting the other six in the woods."

Air and air alone can be credited here for taking a fortified position and killing 137 of 150 enemy soldiers.

There is another example of the effectiveness of close air support, this one taken from the experiences of marine planes supporting the 41st Army Division in Zamboanga.

At one time, a battalion on the right flank found itself held up by strong Jap positions. Japanese



Air support was vital in Zamboanga fight.

automatic weapons set along a low ridge held up the troops which had advanced within about 150 yards of the ridge. A little farther over, an open rice paddy was crossed with such severe fire that even tanks were stopped twice when they tried to advance. The fire came from a distinct clump of trees on the far side. The Japs seemed well dug in, because neither the tanks nor artillery had managed to silence the fire. The army asked for planes.

The planes loaded up with 500 lb and 1,000 lb bombs. A marine air liaison officer and team went up to the position. Friendly troops were too near both targets for safety. They were ordered to move back to a creek bank and take cover. Even then they were too close to the little ridge for safe bombing so it was decided to strafe the ridge by Corsairs and drop the heavy stuff on the clump of trees across the rice paddy.

The planes were kept orbiting while the troops were moved back, smoke grenades were distributed to various elements to mark their positions, and the artillery checked its range on the tree position so it could mark with white phosphorous. All of this had to be arranged by the air liaison officer, which emphasizes the necessity of having ultimate control of a strike at the front line position. If the planes had come in at their scheduled time, many casualties would have resulted among our own men.

The artillery placed smoke on the target when the planes reported that they were in a good position to observe. About 9,000 lbs were dive-bombed into the Jap position. Then the F4Us roared in over the heads of the troops, chewing up the entire length of the ridge position.

When the planes announced they were finished with their runs, the air liaison officer gave the nod to the army colonel, who immediately ordered the advance. The troops took the ridge standing up. Only dead and wounded Japs were found. The infantry also crossed the rice paddy where, earlier, tanks had been stopped. Their laconic report of the Jap position which had been such a terror was:

"A stink hole of dead."

AN amusing and final indication of the specific results of air support occurred on Bongau Island, just across from Tawi Tawi. There were only a few hundred Japs there when the army battalion crossed over. An air liaison party went with them. When Nips were located on one hill, it was suggested that marine dive bombers pound the position. The planes were orbiting on station, and the support air controller on the destroyer off shore turned them over to the air liaison party. The target was designated verbally and each bomb hit was called and corrected by the radio team as each plane came in. The result was that nine dive bombers gave the top of the hill the works.

When the army battalion commander expressed some doubts as to the effectiveness of the strike, two young marine lieutenants, their sergeant and an artillery officer set boldly forth to prove their point. The support had been accurate and sufficient. The troops waiting below were surprised to see the party of four waving from the top of the hill. Word was sent that the support work of the planes had been perfect and troops could occupy the crest.

Close air support by planes whose pilots have been well briefed, directed by competent men on the ground and used intelligently, can be and has been of great specific value. It takes its place along with artillery, naval gunfire, tanks and rockets as an effective supporting weapon. Commanders of ground troops are learning more about how to use it, and pilots and air commanders are realizing that their greatest value in this work is achieved only as long as they make themselves part of the infantryman's team.

In reporting to the Imperial Diet after American troops occupied the country, the new Japanese government admitted that out of 62,795 warplanes, Japan lost 51,109—or five of every six planes—and 684 of her 1,217 warships. The Diet was also informed that none of Japan's 12 battleships was seaworthy at the end of the war and only two of her 25 carriers were "actually capable of navigation."

More Effective Monitoring

How reports of air observers can be received more quickly and completely at the CP by a system that can handle two or more radio frequencies at the same time.

By Capt David Lubin

DIVISION and Corps tactical and gunnery air observers are a prolific source of current intelligence, a source automatically enlarged when two or more divisions are operating together. Having tactical and artillery observers on station by day and by night gives G-2 and G-3 spot observation in practically any desired area.

But to get the maximum amount of information immediately from the air observers presents a radio monitoring problem. Here are several suggestions to increase the speed of receipt and completeness of the air observers' reports at the command post concerned by increasing the effectiveness of monitoring facilities.

Radio monitoring of the observer circuits has been more or less non-standardized. Usually the division CP or division artillery headquarters has been prepared to monitor its own observers only. When the artillery observer transmits information of importance to division headquarters it has to be telephoned to the division CP or sent via some artillery-division radio net. This method slows up receipt of intelligence reported by the artillery observer, and leaves evaluation up to the artillery regiment. In situations where the CP is busy, important information may never reach the division headquarters.

When the division CP has two monitoring radios, some of the disadvantage is eliminated. However, it is often difficult to keep two monitors listening all of the time. If headsets are used, it is difficult for one operator to keep abreast of the information coming in and accurate logging is almost impossible. If a speaker is used on each set, the resultant confusion and noise may vitiate the value of the reports.

When two divisions operate close to each other, it is often desirable that each division have facilities for monitoring the other division's observers. In many situations it is found that the JASCO unit has sufficient equipment to keep a set on the other air observer nets. However, this requires more than one operator, as priority must be given to the division air observer net (SAO) and it is almost a full time job to handle the receiver and transmitter on this net.

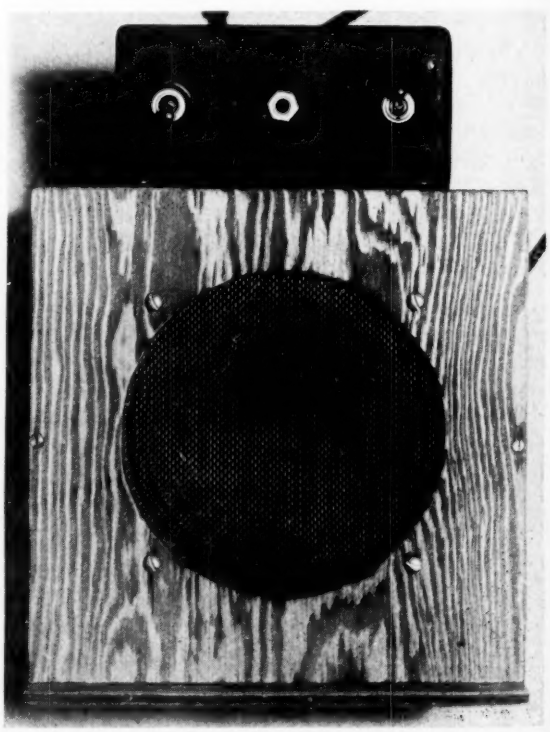
Experiments conducted by the Tactical and Gunnery Air Observers' Training Center, Fleet Marine Force, Pacific, have shown that it is possible to effectively monitor at least three different frequencies at the same time and that this task can be easily handled by one operator. Further, the system does not require communications personnel. The monitoring system can be operated by any one in the CP capable of tuning the average all-wave radio receiver. This has a great advantage because it means that the monitoring duty can be assigned to a member of the section trained in keeping the situation map posted with air observer reports.

Basically, the AOTC monitoring system uses any type of communication receiver available, provided it is powerful enough and has the proper frequency coverage. One receiver is required for each frequency to be monitored. If the CP desires to listen to the division air observer and the artillery air observer, two receivers are used.

These are set up in any convenient place in the CP. They are tied together with a common output jack (for speaker or headset) with a simple selective monitoring switch.

This switch can be made quickly from salvage radio material. For two receivers, the total requirements are a small panel, two double pole single throw toggle switches, two cords with plug, and a jack.

The two cords are plugged into the two receivers.



The monitor may listen to two observers by merely operating two toggle switches.

the receivers are tuned, a headset or speaker is plugged into the jack in the switch panel and the system is ready to operate.

The monitor is able to listen to either observer by merely operating the two toggle switches. This gives the advantage of push button tuning for rapid changing from one frequency to another. With a little practice, the monitor will find that he can listen to both sets at once and tell which observer is reporting information he wishes to record in the log. Priority is given to the observer to be logged by turning off the toggle switch for the other observer. Balance between two sets is established by careful adjustment of the volume control.

During periods of relative quiet, the monitor can easily switch back and forth at regular intervals or he can leave both switches on and when reports start coming in, select the observer he wants.

Should a situation develop where both observers are reporting at the same time information that should be logged, all the monitor has to do is pull the selective switch plug from either receiver and quickly connect another headset or speaker in that set and have anyone nearby copy. An extra headset or speaker should be kept at hand for that purpose.

The Air Observers' Training Center operates three ground stations in conjunction with air observer training, and has a three-receiver monitoring station. A three circuit selective monitoring switch is used and it is possible for one operator to successfully monitor three airborne observers at the same time. The selective switch shown in Figure 2 has one extra switch which can be used for other circuits, such as the control tower or any other information net.

By the addition of another jack, a still more effective monitoring system is available. With this type of switch, a headset is plugged into one jack and a speaker is plugged into the other. For routine monitoring, the operator listens with the headset. When he hears a report that he thinks the G-3 should hear, he closes the speaker switch, plugging in the speaker, and the report is heard over the speaker. This facilitates logging and eliminates the necessity of removing the headset. When the situation demands quiet in the CP, the extra jack can have another headset plugged in instead of a speaker. This extra jack is available for anyone who wants to listen in on the monitoring system.

Satisfactory monitoring has been accomplished with TCS, RBZ, RCB, RAO-2, RAS-4, TBX and all-wave receivers such as the Hallicrafter or R-100/UR.

Monitoring the SAO net at his ground station is one of the best means an air observer on standby duty has of keeping up with the situation and preparing himself and his pilot for his next mission. It is strongly recommended that each division air observer section be equipped with two receivers, such as the RCB, and the selective monitoring switch described in this article.

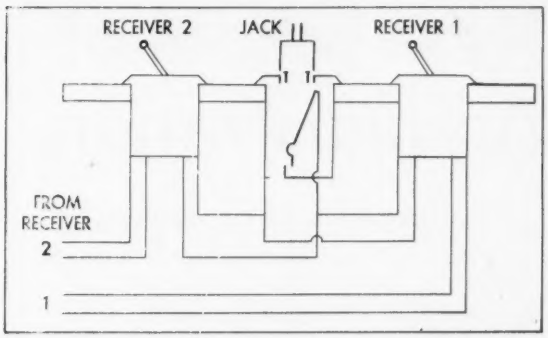


Figure 1: The hook-up for a two-receiver monitoring switch is relatively simple.

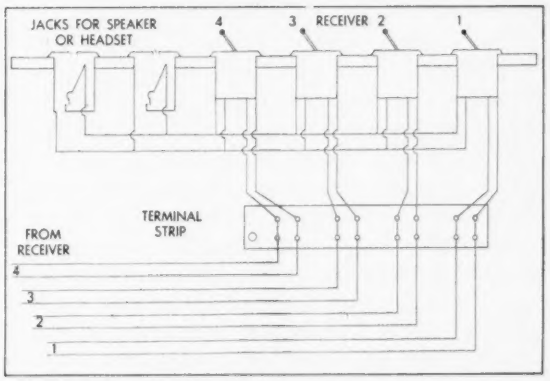


Figure 2: Three-observer net with switch for control tower or information hook-up.

Many other uses for a selective switching system will suggest themselves to the reader. Such a system would be useful in the G-2 section, where a two-set switch could be used to monitor the division air observer and the intelligence or reconnaissance net. It would be useful to the API section when the air observer is checking targets on newly interpreted photos for the section.

In a situation where the CP is dispersed by section, a monitoring system can be quickly established in the G-3, G-2, and Chief of Staff's area by using RBZ receivers and the selective monitoring switch.

The Navy Department warns personnel being separated as a result of the demobilization program to maintain security information, even after discharge. Personnel who have had access to any codes and ciphers, intelligence material, or classified equipment, the Department states, must realize that the status, technique, and procedures of such remain highly secret in peacetime, and that the disclosure of such information endangers the national security.

New School of Administration

By Maj Robert P. Felker

MAN is the one irreducible factor in war. Weapons may change; logistical methods may change. Tactics may vary with the weapons and with the terrain. Whole arms of the service may flourish today and be forgotten tomorrow. But if there are *men* there can be war.

Man is the subject of personnel administration in a military unit. To be more explicit, the word *administration*, unqualified and used in the military sense, applies to "all phases of military operations not involved in the terms 'tactics' and 'strategy'." It comprises supply, evacuation, sanitation, construction, maintenance, replacements, transportation, traffic control, salvage, graves registrations, burials, computations pertaining to movements, personnel management, quartering, military government, martial law, censorship, and other allied subjects.* These phases of *administration*, as will be noticed, can be classified according to the nature of the subjects they deal with, as *materiel* and *personnel*. Thus, we can speak of *personnel administration* as being concerned with the personnel, or with the *men* of a military unit.

Personnel administration is growing up. But it took four years of war to bring recognition of its really vital nature and to cause this recognition to materialize in the establishment of a program for training personnel administrative officers. With the activation of this program in the opening of the Administrative School at Marine Corps Schools, Quantico, personnel administration can at last be said to be "coming of age."

The Administrative School was established for the specific purpose of training Marine Corps officers to perform the duties in personnel administration on a military staff. Its eight-week course in personnel administration will acquaint these officers with the problems of personnel administration and will equip them with a knowledge of procedure and develop skills which will help them to solve these problems should they be assigned to staff duties. For officers who are not so assigned, it will provide a background of administrative procedure which will be useful in any phase of military activity.

An analysis of the course of study shows that seven per cent of the total class time is devoted to administrative doctrine and theory. This portion of the course includes a presentation of the nature of personnel administration, an assessment of its importance in the activities of a military organization, a definition of terms and a definite assignment of functions to both the S-1 and the adjutant, designed to clear up the confusion that exists in this latter respect particularly.

Fifty-six per cent of the time is devoted to administrative detail and procedure. It includes such subjects as office management, orders and correspondence, filing, basic publications, the service record book, classification, leaves and furloughs, separations from the service, pay, muster rolls, and many others.

Nine per cent of the time is devoted to treatment of the morale aspects of personnel administration. Periods on the Special Service Branch, the postal service, welfare agencies, shelter, billeting and sanitation, and the work of the chaplain are included.

Twenty per cent of the time is devoted to miscellaneous administrative problems and procedures. During this time, the duties of the S-1 and the adjutant in the field are considered, including command post organization and procedure, the use of records and reports in combat, special problems in connection with amphibious operations, military government and civil affairs, and the organization and functions of military police. In this section, also, is included a 34-hour course in naval justice, stressing, of course, the functions of the adjutant in this regard.

In all, the course deals with over 200 specific and basic functions in personnel administration. It considers *who* is to perform each one, *how* the function is to be performed, and *why*. It is designed as a practical course, one which not only considers the theoretical problems involved, but gives practice in solving those problems. The instructors at present are all former adjutants or S-1s, with three ex-sergeants major in the group. Furthermore, the fact that Headquarters Marine Corps is near at hand facilitates getting the latest and most accurate information on technical matters for presentation in the course.

The fact of the establishment of the Administrative School does not guarantee, by any means, that all the problems in personnel administration in the Marine Corps have reached their final solution. But it may help to make things run a bit more smoothly; it may eliminate some needless red tape, or at least change its color to a light shade of pink; and above all it may increase the efficiency of military units by aiding in the solution of their personnel problems. But whatever its accomplishments, the mere fact of its establishment is an indication that personnel administration has at last come into its own—the patrimony of recognition to which it is rightfully entitled.

**STAFF MANUAL 1945, United States Marine Corps.*

Military Umpires

Field maneuvers are the acme of all training but without an efficient umpiring system there can be little control or true realism. Commanding and umpiring cannot be combined.

By Maj Martin Levit

"PLAYING their final spring training game with the Dodgers, the New York Giants called upon 50-year-old Mrs. I. Ware Goggles to umpire the game. Mrs. Goggles, wearing a specially built chest protector, called the balls and strikes from behind the plate and, in addition, umpired at all the bases."

Too ridiculous to be funny? Well, perhaps so for the game of baseball, but not so for the great game of war, wherein the use of inept and too few umpires in dress rehearsals is too common even to be noticed.

It is highly doubtful that the Giants and Dodgers could derive the maximum training benefit from the game played under the indicated umpiring conditions. It should be obvious—but it is apparently not fully appreciated—that military units cannot obtain the maximum value from a field problem when the umpiring system for the problem is inadequate.

The primary purpose of this article is to explain and emphasize the need for sufficient competent umpires in all field exercises, field maneuvers and command post exercises.

First, to define briefly several terms which will be used: A *field exercise* is a problem conducted in the field under simulated war conditions in which the troops and armament of *one* side actually are present, while those of the other side are imaginary or outlined. The *field maneuver* is similar, except that both sides actually are present. When the troops present consist of command, staff and communication personnel only, the problem is termed a *command post exercise* (and it may be either one- or two-sided).

Any of the above-mentioned applicatory exercises may be a *controlled* or *uncontrolled* problem depending on the degree of control exercised by the highest echelon conducting the problem. There should be some degree of control maintained always in order to keep the problem within prescribed time and space requirements, and to point the problem toward situations which will bring out the principles desired. A *situation* and a *mission* always are given. The general distinction between a controlled and an uncontrolled problem is that in addition to the situation and mission, the controlled problem further gives the *major decisions.* In both types, the minor decisions and the actions incident to the execution of the major decisions are made by the participating unit.

Field exercises and maneuvers are the acme of all training, since they are the closest approach to actual combat that training conditions permit. They involve the applied training and coordination of individuals and units and arms under combat-like conditions. Coming at the proper time in the training period, carefully prepared, intelligently directed and controlled and realistically executed, these applicatory exercises provide the greatest possible benefit to units in training. But without an efficient umpiring system, there can be no intelligent control and no true realism. In fact, a poorly umpired problem easily can impede rather than aid a unit's progress in training.

In general, field training during the war was characterized by an almost utter vitiation of umpiring. At times, umpires were not used; when they were used, they were deficient in quantity or quality—or both.

IN a very literal sense, the umpires of a problem act as a board of examiners. Present in all echelons down to at least companies, they are the only means of obtaining constructive criticism after a problem has been completed. An umpire must observe a maneuver or note a decision, and be able to tell exactly what is right or wrong with the maneuver or decision.

Thus, two facts should be evident. The first is that the functions of commanding and of umpiring cannot be combined (as is often attempted in the field). An officer cannot render a decision, supervise its execution, and then perform a mental about-face, a psychological flip-flop, gaze into his determined commander's eye with his discriminating umpire's eye, and tell himself and others just what was wrong with the action taken. And not only is there a lack of objectivity, but also there is a lack of opportunity to criticize. A commander cannot be always where an umpire should be.

The second evident fact is that an umpire must be an excellent and experienced officer. The result of an umpire's observations and appraisals are presented at the critique, and there can be no benefit, no correction of errors derived from the criticism given by an incompetent, inexperienced, or even mediocre officer. An officer must be capable of instructing the unit he umpires.

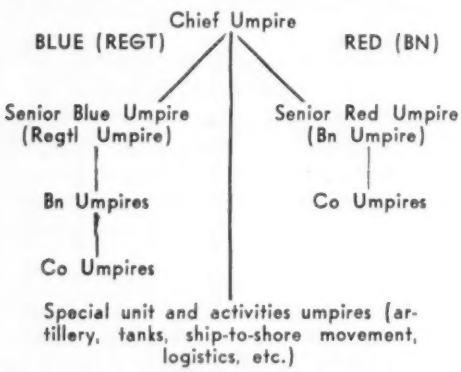
Providing constructive criticism, then, is one of the two major functions of an umpire. The other function is that of controlling the problem. Whether the problem is one- or two-sided, controlled or so-called uncontrolled, there always will be some information the umpire must pass on to the troops and some control measures that are necessary. For

example, he must tell them of the presence and nature of hostile fires—perhaps these fires originate in a scenario, or perhaps they come, constructively, from enemy artillery. He must assess losses in personnel and materiel. He must determine whether or not a unit should be permitted to advance in view of the relative fire power and actions of opposing forces.

One of the major purposes served by umpire control is the furnishing of the elements of realism to a problem—the fires, the casualties, the advance and the retreat. The other major purpose is the assurance that the successive situations and the outcome of the maneuver will be logical, considering the relative strengths and the actions of opposing units.

The two words "control" and "critique" both describe the major functions of umpires and give the reasons why sufficient and competent umpires must be used in the field training of large or small units.

The exact umpire organization for a maneuver will vary primarily with the magnitude of the problem and the number of umpires available. A basic-type organization may be as indicated below.



Umpire organization, then, generally parallels troop organization. Umpires are assigned to opposing forces by the chief umpire after consultation with the senior officer (the director) who plans and conducts the problem. The director, although he plans and presents the problem, initiates and terminates the maneuver and usually conducts the critique, is, nevertheless, not an integral part of the umpire system. The chief umpire, working closely with and under the director, is charged with the organization and details of the umpire system. Throughout the maneuver, he maintains constant communication with senior and special unit umpires, making decisions as required on questions submitted by these umpires, and relaying information and instructions.

The senior umpire of each force keeps the chief umpire and the senior umpire of the opposing force informed of the situation and plans of his unit. He renders decisions on questions submitted by subordinate umpires, and he insures the transmission to them of pertinent instructions and of the necessary information of opposing elements. In large-scale maneuvers, it is desirable that each senior umpire have no other duty than that of administering the umpire organization of his force.

The infantry battalion umpire does not attempt to supervise the activities of company umpires during the conduct of a problem. When necessary, he will aid them—especially by relaying information—but his primary duty is observing and reporting on the actions of the battalion commander and his staff.

SINCE the outcome of any battle is essentially the sum of the outcomes of many local encounters between small units of the opposing forces, it follows that realism in maneuvers can be obtained only by painstaking umpiring at all points of contact. Thus, the great mass of umpires should be with or among units which are or will be in contact. Umpires at the headquarters of large units should be held to a minimum. The ideal situation would be to have an umpire with each front-line platoon.

For an infantry battalion, the following personnel are considered a practical and suitable minimum: 5 officers (1 battalion, 1 each company, 1 supernumerary); 5 NCOs (umpire assistants); and 6 privates (flag orderlies—2 each company).

It is advisable that a small reserve pool of umpires be maintained at chief umpire headquarters in order to meet abnormal, temporary, or unforeseen needs, and to provide reliefs if necessary.

Obviously these umpires must come from units not participating in the problem. Each regiment should maintain a certain quota of trained umpire personnel, which may be used in rotation at maneuvers without interfering unduly with unit training. In the long run, the over-all training status of a large unit would be enhanced if each of its subordinate units, in rotation, placed all the necessary personnel at the disposal of other units for use as umpires during a problem.

Each division, or regiment, should maintain a school for umpires. About one week of well-directed instruction is sufficient to prepare umpires to participate in maneuvers. The classroom instruction should include principles and general procedures, techniques of controlling problems (fire power determination, assessment of losses and delays, control flags), and the actions of the various arms in particular reference to umpiring problems. Then the student-umpire should be given the practical experience of umpiring small units (beginning with the squad and progressing to the battalion) in various types of tactical exercises.

This practical experience serves a double purpose. For, in order to benefit fully from even a well-umpired problem, troops must themselves be trained to work with umpires—to appreciate the value of umpires, to know the meanings of the control flags, to understand the scope of the umpire's authority, and to respond to this authority. As in

the case of umpires, troop indoctrination should start with the squad and work up step by step.

Assuming that competent umpires are organized in accordance with the needs of a maneuver, there then is the task of providing for an umpire system of communication. The umpire communication system is a vitally important problem; there is little or no control possible without efficient communication—and umpires must control.

The first essential of the umpire communication system is that it be independent of that established by the operating troops. The second essential is that the system provide efficient communication (a) among all officers *within* either Red or Blue forces, (b) *between* umpires of Red and Blue forces, and (c) *among* Senior Red Umpire, Senior Blue Umpire and the Chief Umpire. (See diagram below.)

Every umpire has certain responsibilities even before a problem begins. These include:

(1) A careful review of pertinent umpire instructions; (2) thorough familiarization with all aspects of the problem; (3) a reconnaissance of the terrain; (4) acquainting himself with the state of training of the participating units, and (5) making certain that he has all necessary equipment.

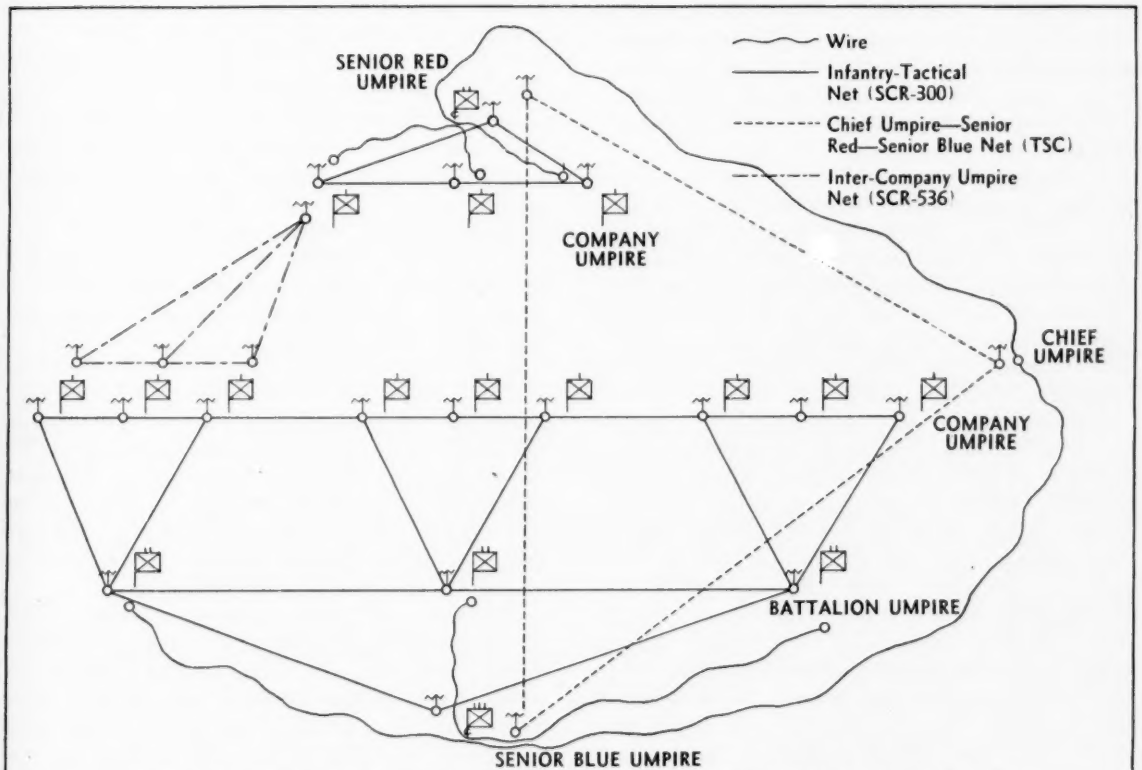
In actual conduct of the maneuver, there are basically three methods used by umpires to control the problem. These are (1) the determination of the relative fire power of opposing elements, (2) assessment of losses of personnel, materiel and time, and (3) the use of control flags. These control measures will be discussed only briefly and in terms of general principles and precautions; details are available elsewhere.

In maneuvers, the progress of the infantry is determined by the *relative fire power* of opposing elements. As a basis for arriving at the fire power of a unit, each weapon is assigned arbitrarily a power factor. For example, the M1 rifle may have the power factor of 1; the BAR, 3; the 105mm howitzer, 35.

However, there are many additional factors which enter into the final judgment of a unit's fire power. Range, observation, coordination of fires and organization of the ground, cover and concealment—all these factors must be considered. Only the actual number of weapons delivering effective fire are counted; weapons in reserve and those not in firing positions are not considered. The effect of enemy countermeasures must be determined. (A unit's fire power automatically and arbitrarily is decreased by 50 per cent while the unit actually is under enemy artillery fire.)

A salient but subtle point about fire power deter-

Umpire communication system must be independent of that used by operating troops.



Notes: 1. Infantry-Tactical Net may be four separate nets: a regtl control net and three bn nets. 2. Inter-Company Umpire Net may include ALL Red and Blue Cos, or there may be separate nets in each bn zone. 3. Wire lines may be laid prior to start of problem. 4. Special unit and special activity umpires omitted.

mination is that each local battle cannot be treated as a whole; it must be broken down into component elements. For instance, one company opposes another company. The total fire power of each may be equal. But the maneuver of two platoons to envelop the enemy flank may well give the attacking company great fire superiority at that point.

In moving situations, decisions regarding fire power will have to be based on a hasty approximation of the factors involved. An umpire must know what factors to consider, and he must know what the fire power figures for various *units* (squad, company, etc.) are. And then he must apply common sense—a more effective method than intricate addition, multiplication and subtraction.

AN infantry unit should be permitted to advance only when it has a decisive superiority of fire (as compared to opposing units). This superiority rarely should be less than 2-to-1, and if the defender has excellent fields of fire, is well-organized and dug-in, then a 4- or 5-to-1 superiority should be required. The tendency of many umpires to permit advances without requisite fire superiority must be watched and curbed.

Losses in personnel, materiel and time are assessed during the progress of the maneuver by the umpire *with* the unit—not by the umpire with opposing units.

It is essential that losses in personnel be assessed and recorded, since such losses affect fire power and thus influence the progress of the maneuver. Units may be weakened by accumulating losses during a maneuver so as to affect decisively the final outcome.

A certain number of "medical casualties" should be designated in order to give practice in evacuation. Aside from these casualties, personnel losses are not ruled out of action—since the purpose of the maneuver is training. They are, however, taken into account in the determination of fire power. In view of the continuing presence of "casualties," unit commanders must be informed periodically by umpires of their assessed losses.

Losses to be assessed as a result of the fire of the opposing force are, to a considerable degree, a matter of judgment. The relative fire power of opposing forces is the primary consideration. Losses resulting from the fire of infantry weapons alone vary from one per cent to over three per cent per hour of active combat. War experience indicates that an infantry regiment may sustain casualties as great as 15 per cent from infantry and artillery fire during one day of severe combat. While the losses of a particular element of the regiment might exceed the proportion, the figure affords a useful check on the total casualties assessed from isolated incidents during a day of severe combat. It should be emphasized that the usual tendency of umpires is to assess losses which are grossly excessive in the light of war experience.

Materiel declared damaged or destroyed may be permitted to continue in the maneuver for training purposes. But, whenever practicable, materiel loss should be taken into account in terms of reduced fire power and time loss, and personnel concerned should be required to take (or simulate) appropriate action to repair or replace such materiel.

Demolitions and other obstacles will be executed or simulated in detail so as to confine the effects approximately to realities. During simulated operations, materiel must actually be on hand and that used checked and tallied. Unit umpires will enforce the delay resulting from a demolition or obstacle by posting guards or assistant umpires. In the case of a bridge destroyed, the effect well may be to deny its use during the entire maneuver to troops to which engineers are not attached. Troops having engineers attached will be caused a reasonable delay for repair.

In control by means of colored flags, two points of caution are necessary. First, before the problem all troops must know the meaning of all flag signals. Second, display flags so they will be visible to all troops.

The display of colored flags is the principal method of umpire control over troop movements. The minimum flag colors (and meanings) necessary are three: *white*—suspend all action and movement in both forces; *blue*—unit displaying has fire superiority and may advance at a rate prescribed by the umpire; *red*—naval gunfire, artillery, bombs, or mortar fire falling within 100 yards of the flag.

A brief glimpse into the working of the umpiring machinery may be gotten by observations of the functioning of the company umpire (or platoon umpire, if such there be). He is the most important cog in the machine. He determines, in conjunction with umpires of opposing companies, whether or not a unit should be permitted to advance. He assesses losses in personnel, materiel and time. The decisions reached by umpires of opposing companies in contact determine the progress and outcome of the maneuver. If these decisions are not sound, the situations and outcome will be false, and the lessons learned erroneous.

The company umpire posts himself so as best to observe the action of the company. Ordinarily, he will not be with the company commander, but with the head of the leading element—for example, a platoon in the attacking echelon.

As soon as the opposing troops approach within about 200 yards of each other (actual contact is never permitted), all movement and firing is suspended by company umpires, who display white flags. Unit umpires go forward and confer with umpires of opposing units. Information concerning the dispositions, fire power and plans of the units concerned is exchanged. In consultation with each other, unit umpires will then determine what movement, if any, is to be permitted. The decision

is transmitted to the respective company commanders, and appropriate flags are displayed to control these movements. Incidentally, an umpire does not inform his own unit as to the losses, situation, or fire power of the enemy. As in actual combat, a unit must interpret the enemy situation from reconnaissance and enemy action.

If umpires of opposing companies have means of inter-communication, they may, at times, be able to exchange information and reach a decision without a conference. However, the frequent display of white flags is indispensable to sound and informed umpiring.

WHAT are the relations between participating troops and umpires? Although umpires are assigned to units of the opposing forces, they are in no sense a part of such units. The entire group of umpires is superimposed on the maneuver as a whole.

Umpires have no tactical command function. As far as they are concerned, movements are either permitted or not permitted—they are never mandatory. Umpires are neutral in attitude and action. Their efforts are solely to promote realism; their decisions merely express or interpret tactical facts. Troops must understand and conform to rules and procedures established for the maneuver, and they must accept decisions by umpires without argument. However, troops may call on umpires for decisions, when necessary, and for clarification of decisions already made.

In general, umpires observe the same restrictions as do troops with respect to lights, smoking, movement, concealment and the like. Otherwise, troops in the vicinity may be revealed, and the situation —especially from the air—confused.

The Critique

After controlling the progress of the maneuver, the umpire must criticize the conduct of the troops during the maneuver. He participates in the critique. The critique is the summary and analysis given after an applicatory exercise. It affords the principal means by which the participants are informed of the major lessons brought out by the problem.

Generally, the critique is planned and conducted by the problem director, working closely with the chief umpire. It should be held immediately after completion of the exercise. Whenever possible, the location should be a good observation spot on the "field of battle." Certain, or all, subordinate umpires are told beforehand in what sequence they will speak, and for how long they will speak. The program is arranged so that there will be no holidays or repetition.

The critique is a period of instruction, not of rambling discussion. It should be short, to the point. Umpires must, with the aid of notes prepared as the problem progressed, drive home the important lessons learned during the problem. *A mere recital of what has taken place is an absolute waste of time.* The critique must deal with specific and significant points: examples of initiative, of sound decision and maneuver; a particularly illuminating instance of correct staff functioning; specific mistakes and ways of correcting these mistakes—all these must be covered. Adverse comments should treat doctrines and principles, not individuals.

With the advent of peace, much of the spontaneous interest of troops in training is gone. The motivating drive engendered by the foreseeable battle value of training is no longer operative. And the problems of providing realistic and worthwhile instruction to maintain interest and a high state of training correspondingly are increased. One of the solutions, in field maneuvers and exercises, is the employment of umpires—of quality and in quantity.

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War Without Headlines

Marine aviators had to dominate the partially-won Marshall Islands for more than a year to hold the door open for the endless convoys supplying our mounting assault.

By 1stLt Harold H. Martin

THE LCI called Hogan's Goat warped laboriously into her berth beside the rusty steel floating pier that juts from a palm shaded coral beach into the blue Majuro lagoon. There was a moment's pause, and over her rail climbed, slowly and with much effort, seven nearly naked little men.

They were Japanese prisoners from the atoll of Wotje, once an "unsinkable carrier" in the heart of Nippon's Central Pacific mandate. Still unsunk, it was a carrier no longer; rather a dead and mummified corpse of an island, torn by shells and scorched by fire. They were pitiful to see, if a man could find it in his heart to feel pity for a race whose people themselves detested that gentle virtue. They were starving. Their muddy brown skin, eaten by ringworm, was stretched taut upon fleshless bones. Their necks were like thin, dried weed-stalks, and their eyes glittered deep in their skulls. Their black hair bushed up, stiff and dry and lustreless, like the fur of some dead animal.

On the dock a pilot of MajGen Louis E. Woods' Fourth Marine Air Wing stared in disbelief as he watched the seven climb like feeble spiders over the rail.

"Jee-you-dus' Preese!" he said. "Is that what we've been peckin' on for a year?"

The seven were, indeed, a sample of his handiwork. In the long, laborious and unsung War in the Marshalls—the war the headlines forgot when the big battles rolled on toward Tokyo—he and his mates had worked around the clock for 13 months or more to bring these once-arrogant little men to this low state of health and morale in which they stood in their dirty breech clouts, huddled on the dock as voluntary prisoners of the Americans.

It was a man-sized job that the Pacific High Command handed to BrigGen Lewie G. Merritt, commanding officer of the Marines' Fourth Wing, back in March 1944. We held Kwajalein and Eniwetok and Majuro atolls in the heart of the Nipponese outer island empire. From them we had to dominate that empire over an area of island-dotted sea that ran from Wake and Marcus in the north to Nauru and Ocean in the south and eastward to Ponape. In the heart of this two and a half million square mile domain lay the great Nipponese air-seaplane bases of Wotje, Maloelap, Mille and Jaluit, past which must sail the endless convoys heading west to mount the seaborne assaults on the further stepping stones to Tokyo. We lay athwart the northern convoy route. We had, at all odds, to hold the door open.

The assault phase of the Marshalls campaign had smashed or held at bay Jap air and sea power in the area. But no one believed that the Nipponese air power had been permanently crippled. On every island still in Japanese hands strong determined garrisons could, if given 24 uninterrupted hours in which to work, put their airfields in operation again.

The job of the marines was simply to see that they never got this chance. And they never did. The finest dive-bombing squadrons in marine aviation came in to see to it—Maj Elmer Glidden's famous Ace of Spades squadron, wearing the oldest insignia in marine aviation; Maj Rocky Acers' Red Mousie outfit, which was to make a name for itself as the boat-busters of the Marshalls in the later days when a ten-foot rowboat was good hunting; Maj Paul Byrum's boys who called themselves the Diving Doodle-bugs; and the squadron which proudly wore the title of Ali Baba and His Forty Thieves. Crack fighter squadrons were Maj Doc Everton's Whistling Devils, Maj Swede Clasen's Devil Dogs and Maj Elmer Wrenn's Buccaneers.

ONLY at the very beginning was it a spectacular war and the exciting days burned out fast. Twice in the first two months ten twin-engined Jap bombers struck at Eniwetok. The first assault in early March killed three men, wounded 21, and destroyed fuel and supplies. The raiders got away safely. On their second strike, in April, marine night fighters found and slashed them, destroying two and driving the others off. It was the last appearance of Japanese bombers in the Marshalls.

In April, over Ponape, six planes of Maj Doc Everton's Whistling Devils swooped in to catch 12 Zekes as they took off to attack the Mitchell bombers that Everton's boys were escorting. Everton got three himself, his mates five more, plus three probables, and they left a Tony burning on the ground. No more fighter aircraft, except a lone snooper now and then, were seen in the Marshalls area.

But, though the air war was short and sweet, the ground war was to prove long and arduous and trying. The Jap island garrisons still had plenty of guns and plenty of ammunition, and every month we counted the toll of our dead. In March, Capt Homer Cook, a hero of Guadalcanal, known to his mates as the best dive-bomber pilot in the Marine Corps, fell to the fierce ack-ack over Wotje. In April four pilots and one gunner were killed, with Dumbos saving five pilots and two gunners

out of nine planes shot down. In May and June the bombings swelled to crescendo as the great convoys, headed for the Marianas battles, moved under the Central Pacific air umbrella. Wotje, Maloelap, Mille and Jaluit shuddered under tons of bombs as dive and fighter-bombers in combined strikes worked around the clock to see that no long-range bombers from Yap or Babelthaup or Wake should find a place to land if they should try to shuttle-bomb between the Carolines or Wake and the Marshalls, to strike the fat ships riding in the Marshalls lagoons.

AND now the pattern changed in the war of strangulation. Reports that had once read "AA heavy, intense and accurate" began to read "light, moderate, inaccurate." For four months now Elmer Glidden and his wingmen had been walking up to the intelligence office door, kicking the coral sand off their shoes, pointing to a heavy anti-aircraft gun on the intelligence map and saying, quietly: "Well, you can mark that one off for good." Photo intelligence was confirming the story daily. The grinding attrition was taking its toll. The Jap islands to the camera's eye were dead and barren wastes of pitted chalky earth, twisted guns, gutted block-houses and shredded, fire-blackened stumps of trees. The garrisons were going underground.

But still the little men, hopeful of rescue, were creeping out at night to fill a few holes in the runways before the morning patrols came down. And still they fired with whatever they had when a careless pilot swept in too low. So we had to keep after them. And morning and evening and at midday the bombers struck and the strafing planes roared down. When the bombers weren't plunging out of the sun the search planes were swooping around in lazy circles while sharp eyes watched every minute stir of life below. At night their rest was interrupted by single bombers, flying two-hour patrols and dropping bombs at intervals just to keep the little men below awake and jittery.

July rolled on into August and September. Hunting, which had been good, was poor now. A pilot had a good day when he caught a huddle of scrawny fishermen on a reef, or spotted a ratlike scurry in the underbrush that he could swoop on, strafing. Small boats became primary targets, for in them the Japs could sometimes sneak at night to wooded islands where they had planted gardens, to bring back loads of food to the garrison islands. Without a boat an island six miles away along the connecting reef might as well have been on Jupiter. In one month the Red Mousie squadron blew up 31 of these food-hauling small craft.

In August MajGen Woods assumed command of the Fourth Wing, succeeding BrigGen Thomas J. Cushman, who had followed General Merritt as boss of the forgotten war. Firebombs fell on Jabor Town on Jaluit, wiping that 20-year capital of the Japs in the Marshalls off the map.

December, and first authentic word of how the Japs were faring under the bombing came from a prisoner from Maloelap. Food was scarce, but some was being obtained from gardens. The garrison still had hopes of being rescued and still attempted to patch the shattered runways so rescue planes might come in, but weakness from hunger and constant patrol made work difficult. What the Japs wanted, he implied, was invasion so that they might die honorably in battle, rather than by slow starvation.

January, and information of the besieged islands began to come in a flood. Military government officials, directed by Capt Harold Grow, salty, iron-jawed, four-stripe commander of the Majuro atoll, were sending in Marshallese native scouts by night to gather information and to plan evacuation of natives. Rugged LCI skippers rammed their craft on reefs under the muzzles of Jap rifles to take off natives by the hundreds, while marine airmen, flying their first "mercy" errands, mauled the adjoining garrison islands with bombs and strafing fire to make the Nipponese keep their heads down.

Koreans, in the first recorded revolt of these captive laborers in the Pacific war, turned on their Jap masters in an effort to escape, killing three with knives and their bare hands. Seven Japs escaped to return with heavily armed help, and in the slaughter that followed 50 Koreans were killed and nearly 100 others blew themselves to bits with crude grenades made of gunpowder poured into coconut shells, rather than be murdered by the Japs. Sixty-nine others escaped, and were taken off by LCI when marine airmen spotted their frantic signaling.

DESPERATE with hunger, the timid, peaceloving Marshallese, descendants of headhunters, dominated by German and Japanese masters and gentled for years by the teachings of Christian missionaries from America, began to screw up their courage and turn on the Japanese guards as they went out on food-gathering expeditions around the atolls. More and more frequently canoes bearing natives with their trussed-up Jap captives arrived at the nearby American-held islands.

From these Japanese, and from the native and Korean evacuees, Capt T. C. Andrews' marine intelligence officers learned what their reconnaissance photos had led them to suspect. The Japs were starving. They were eating grass and lizards and dogs. The last rice was eaten months ago. No planes nor ships nor submarines had dared the air blockade to bring them supplies since early summer of 1944. Medicines were gone. Death rates on certain islands were as high as 25 to 30 a day. The officers were living better than the men. The men would surrender if the officers were killed. Penalties for food theft were heavy. Natives were

rationed to one-half a coconut a day. Natives had been beheaded for failing to turn over their food levy to the Japanese. The penalty for eating a breadfruit was ten days tied to a stake, for eating a section of pandanus, three days.

From these prisoners and evacuees the marine intelligence officers learned other things they wanted to know. On maps, natives and prisoners pointed out the places where the Jap commanders—on one island a navy rear admiral and an army major—could be found. They spotted where they worked and where they slept. Bombers and strafers went out to give these spots a working over.

They were going lustily about this task when a new organization appeared upon the Marshalls scene. They were the Polly boys—so called because the plane in which they flew bore the huge insignia of a parrot and the cryptic admonition, "Quitcherbitchin'." They were the experts of psychological warfare come out from Pearl Harbor to see if the bypassed Japs had been so mauled they were now ready to listen to reason after 13 months in which to think it over.

So they went over the islands in the Polly plane, carrying not a load of bombs but a message spoken by two Nisei, American-born Japanese who had returned to Nippon as children and then, as young men, had come back to the States. One was a former Honolulu barber, the other a California gardener. There were two general themes. One, an appeal to the whole garrison to give up en masse. The other a plea to individuals to surrender. What was the use, their arguments went, in dying for Japan like rats on a shattered island 3,000 miles from home. How much better it would be to live to become fathers of children who could make a new Japan. The Japs' only answer at first was a burst of gunfire that sent Polly limping home with a 50-caliber slug in a cylinder.

As soon as they patched up Polly they came back. On a moonlight night, when the surf was murmuring gently over the reefs, they sailed low over Wotje and played sweet seductive music, a Japanese arrangement of the rhumba "Siboney," "Tokyo Blues," sung by a throaty Japanese torch-singer about the Ginza, which is Tokyo's Fifth Avenue. They played every nostalgic Japanese piece they could find. From the garrisons below there wasn't even the blink of small-arms fire. They were listening.

For the next ten days, the marines dropped leaflets the psychological warfare people had prepared. Finally, the Polly boys decided to test the results of their experiment. They went to Wotje in daylight, Polly in the air and the LCI called Hogan's Goat going in close to the reef to pick up anybody who wanted to come off. There was nobody at Ormed, the island of the Wotje atoll on which they had concentrated their persuasions. Not a sign. It began to look as if the experiment had failed—just like the marines' own campaign had failed back in early April when they had dropped leaflets along with cans of salmon. And got only anti-aircraft fire for their pains, and later a complaint from a surly Jap prisoner that the salmon were of an exceptionally unpalatable grade.

The LCI began nosing along the reef. And there, far away from the main garrison islands of the atoll, safely out of range of daylight pursuit by their commanders, were the seven prisoners. One clutched a torn copy of a psychological leaflet promising safe treatment. Another admitted that pictures in an American magazine (*Life*) the Polly plane had dropped, showing Japanese prisoners being accorded humane treatment on Saipan, had helped persuade him.

Airmen of the Fourth Marine Wing did a good job of work in this strange war that was fought while everybody was looking the other way. They flew more than 16,000 sorties over these tiny pinprick atolls to drop their bombs. They dragged 274 planes riddled with Japanese anti-aircraft fire across the long water-miles back to base. They saw 41 planes go down, and 16 pilots and five crewmen go out who never came back again.

They kept the sea routes open. They held a club over two and a half million square miles of ocean. They left the Japs on the by-passed strongholds only the power to glare impotently as the great gray convoys passed confidently along the horizon, headed for the Marianas, the Philippines, Iwo and Okinawa. With relatively few men and planes they held in subjugation islands which would have cost us untold thousands of lives if we had attempted to storm them by amphibious assault.

Japan's Casualties Totalled 5,085,000

Jap army and navy casualties numbered about 5,085,000, according to a Japanese spokesman, but at the end of the war the nation's military strength was nearly three times that of 7 December 1941. Japan ended the war with an army of 5,500,000 as contrasted with the 1,900,000 at the time of Pearl Harbor. Army casualties included 310,000 killed; 146,000 wounded; and 4,470,000 sick of whom 40,000 died. Navy casualties were 157,365 killed; 1,430 dead from sickness and 1,483 missing. The navy dead included 2,065 suicide pilots. Approximately 200,000 of the army dead committed suicide in the face of capture or similar Nipponese "dishonor."

Shore Fire Control Parties

Much progress has been made in the organization and functioning of these units since the first naval officers were employed as gunfire spotters on Guadalcanal. ***By LtCol William B. Oldfield***

NAVAL gunfire in support of a landing operation generally divides itself into two phases—that which precedes actual landing on the beach, and that which is delivered in support of the landing force after the landing force reaches the beach. The first phase is the beach preparation and the scheduled covering fire to neutralize inland targets. The landing force responsibility, the planning of the scheduled bombardment and the beach preparation were discussed in the July 1945 issue of the GAZETTE.

Support of the landing force after it reaches the beach consists of direct support fires delivered in support of specific units of the landing force, of the longer range deep fires in support of the landing force as a whole, of harrassing and interdiction fires, and fires on special mission, such as counter-battery and illumination.

The conception of naval gunfire in close support of troops was, at the beginning of the war, viewed by many marine officers with a jaundiced eye. Lack of experience, lack of training, and, most of all, lack of understanding of the capabilities and limitations of naval gunfire, contributed to this skepticism. Too, the lack of an organization to provide trained personnel to control naval gunfire was a handicap. We still believed that a naval officer attached to the landing force could properly advise a landing force commander as to what the ship could accomplish without the naval officer's understanding basic infantry tactics. In addition, it was not believed necessary to train the naval gunnery officers on the firing ship in the bombardment of shore targets. Many things changed these views.

One of the first proponents of naval gunfire in support of the troops after the landing was LtCol Donald M. Weller, USMC. His imagination and realization of the support which would be available to the landing force laid the basis for present-day concepts of organization and training of the shore fire control parties.

The first shore fire control parties in combat participated in the Guadalcanal campaign. Two naval officers were provided each artillery battalion for spotting naval gunfire. These officers had been given some training in the spotting and employment of naval gunfire and were presumably ready for combat. They had no other personnel in their shore fire control parties, it being assumed that the aritllery battalion to which they were assigned would provide the additional personnel. These officers were equipped with a mass of registered publications, including the confidential fire control code USF 100B, and were carrying complete TBX radios. Like poor relatives with their hats in their hands and weak smiles on their faces, they reported to their respective artillery battalions as qualified naval gunfire officers.

These naval officers were given trained communication personnel from artillery forward observer sections and were ordered to the front lines to spot naval gunfire in support of the 6th Marines attacking along the beach from Point Cruz to Cape Esperance. They fired on targets on reverse slopes which could not be profitably engaged by artillery, on known Jap positions and on targets of opportunity. In one case, poor maps and good spotting judgment of the spotter identified one target to the ship as, "enemy troops to the north of the Poha River on the third hill covered by coconut trees." It had been the practice to send artillerymen from the supporting artillery to act as liaison with the firing ships. These artillerymen had been active on this front for many weeks and there were few hills that were not intimately known to them. The officer on the supporting ship picked the most likely hill in the area and the ship placed an air burst just over the trees. The spotter requested fire for effect and the whole area was covered with fire. When the assault troops reached this area there were 315 fresh graves.

These naval officers did much in the development of naval gunfire as a supporting weapon and its effective use today can, in a large measure, be directly attributed to them.

At Tarawa, there were no trained naval gunfire spotters and few trained naval liaison officers for the formation of spotter and naval liaison teams of the shore fire control parties, and the 10th Marines provided most of the officers and men. Equipment was scarce, but after scraping the bottom of the Division and the 2d Base Depot, enough was found to equip all parties. A short school in the capabilities and limitations of naval gunfire was conducted and communication drills were held. Most of the personnel had never seen a ship fire, but the spotters were all trained artillerymen.

In the rehearsal area communication drills with the fire support ships were held, the shore fire control parties working with their scheduled direct support ships where possible. Two naval gunfire shoots were held; one on a large rock sticking out of the water, with the shore fire control parties on a destroyer lying close by, another on a small low-

lying island, with the shore fire control parties in a boat lying offshore. Neither shoot was at all satisfactory for training purposes, but this did familiarize the parties with the high velocity and flat trajectory of naval gunfire.

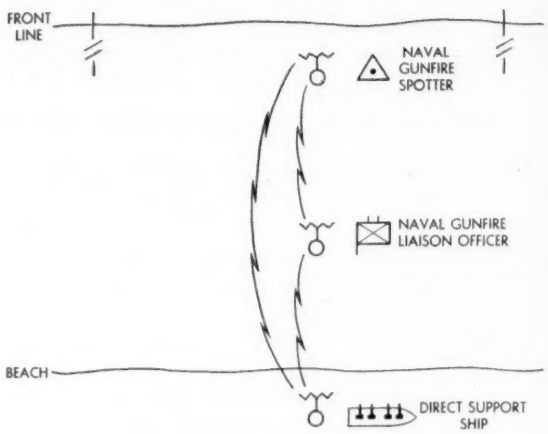
The performance of these jury-rigged shore fire control parties at Tarawa was outstanding and earned the commendation of the Commanding General, 2ndMarDiv.

After Tarawa, the naval gunfire personnel were organized and equipped as a component of the Joint Assault Signal Company. This was a big step in the progress of the shore fire control parties, for now they could be organized and equipped and trained as a team. However, the concept of organization was based on the assumption that only one radio would be used, and that that radio would be with the naval liaison officer. But in an assault landing operation, it is necessary that both the spotter and naval liaison teams be organized and equipped and prepared to operate separately and independently, so that if one team becomes a casualty, the other can effectively provide fire for the supported unit. So to make each naval gunfire support team fully operational for a 24-hour basis and to insure mobility, it was found necessary to increase each team by a minimum of one radioman, one wireman and one general duty carryman. This personnel increase was provided from overages in the division, from the headquarters of the JASCO, or at the expense of some other unit in the division and did not prove entirely satisfactory, since this personnel was not organic to the teams and as a result could not be adequately trained. The JASCO still did not provide teams for infantry regiments or for a division naval gunfire team. This situation existed throughout the campaign of the Marianas and the Japanese mandated islands.

From recommendations born of hard experience, the present Assault Signal Company was organized in May 1945. The "Joint" was dropped and the title became Assault Signal Company. The company became an organic part of the marine division, not to be attached and detached for specific operations.

These shore fire control parties now have adequate personnel organized, equipped and trained as a team to provide naval gunfire support for each echelon of the infantry down to the battalion.

The following diagram shows the infantry battalion shore fire control party and the direct support ship. The naval spotter, shown in the observation post, is the target-getter. He locates targets and directs the fire of the assigned direct support ship on any targets which are holding up the infantry. The naval gunfire liaison officer, shown in the infantry battalion command post, advises the battalion commander in the employment of naval gunfire support. When no direct support ship has been assigned to provide support to the infantry battalion, the NLO is charged with making the request for naval gunfire support to the next higher echelon. In addition, the NLOs of all echelons coordinate the fire support to insure the greatest effectiveness.



The spotting of naval gunfire is accomplished over the *spotting net*, one such frequency being assigned to each assault infantry battalion.

This organization and operation proved itself during the Iwo Jima campaign, when one marine division fired more than 1,000 naval gunfire support missions controlled by shore fire control parties. Again at Okinawa, shore fire control parties fired more than twice the amount of naval gunfire previously expended in any one operation in support of troops ashore.

Much progress has been made in the organization and functioning of the shore fire control parties since the first naval liaison officers reported to the front lines. Today, well-equipped and well-trained teams are integral parts of the division. They receive their basic training—which includes instruction in actual spotting of ships' gunfire as well as thorough familiarization in the ships' problems in shore bombardment, and are fully capable of performing their duties when they report to the headquarters assigned.

The duties of these shore fire control parties concern the employment of naval gunfire support. Their posts are not in a security outpost of a command post but alongside the operations officer and in the observation post, where they can most effectively recommend the employment of naval gunfire support and where they can most effectively place naval gunfire to support the assault troops.

Naval gunfire, or floating artillery as it might properly be called, is, like its brother the field artillery, a supporting weapon. It provides the preparation fire for the landing, it provides the counter-battery fire against enemy artillery and it provides continuous support of the landing force for its push inland. The shore fire control parties are the tools for the control of this powerful weapon and the proper employment of these teams will determine the support rendered.

Yalu Withdrawal

(*Continued from page* 10)

bile bridge-sections against the day when they would force a crossing.

On the night of the 25th and 26th, the Japanese seized Kyuri and Kintei islands from the Russian outposts, and a detachment of the 12th Division arrived at An-Ping-Ho, seizing the crossing site there. Col Trukhin, commanding the Russian cavalry force on the northern flank, requested instructions, saying that he could no longer both keep contact with Zasulich's main force and guard the Sai-ma-chi road to Liao-Yang. Kuropatkin intervened, as was his habit, and ordered him to confine his efforts to the latter. This he did, breaking contact with the left flank of the Eastern Detachment, leaving that flank of the main body uncovered and with no cavalry available except that along the coast on the right, which was fixed there by the threat of a landing by the Japanese Second Army.

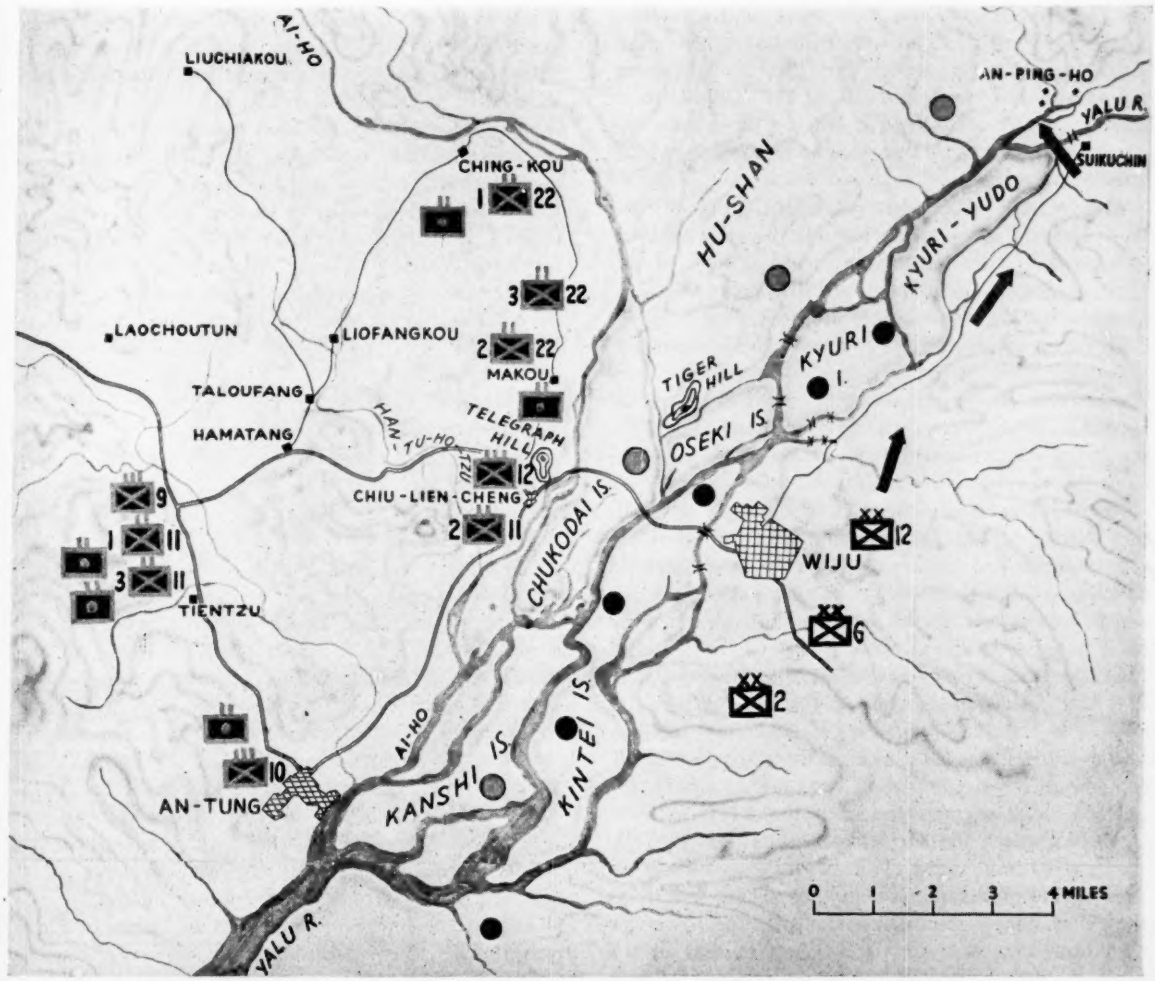
Realizing this danger, General Trusov of the 6th Division, whose 22d Regiment under Col Gromov was holding the left flank position in the Hushan mountains, reported it to General Zasulich at 11 p.m. that day, the 25th.

General Trusov must have been sensitive to the principles stated as follows in Paragraph 737*:

"In situations where the enemy has freedom of maneuver and mobile troops and the flanks of a delaying force are open to hostile attack the *protection of the flanks and rear* is of vital importance."

Considering the mission, three general courses of action offered themselves to the commanding general of the Eastern Detachment:

(1) Request that General Kuropatkin reconsider and reassign part of Trukhin's force of two Cossack regiments to cover his flank.
(2) Withdraw his left flank element to the west bank of the Ai-Ho, to refuse the flank.
(3) Make immediate preparations to withdraw the



Map 4: Enveloping move begins; Japs take An-ping-ho crossing, Kintei, Kyuri isles.

whole force to the next suitable delaying position in the rear.

He had the following factors to weigh: Already the mere presence of the Eastern Detachment had caused the Japs a delay of 18 days (8 to 26 April) during which they had to assemble the whole army and make detailed preparations for forcing a crossing of the Yalu. With no cavalry at hand to keep in touch with the advancing elements of the Jap 12th Division, there was serious danger now that the north flank might be turned, endangering the route of retirement. The mission from Kuropatkin was explicit: "Avoid decisive engagement with a superior enemy." History shows that General Zasulich knew the Japanese First Army was superior in numbers *at this point.*

Perhaps the safest thing to have done at this time would have been to request reassignment of the cavalry, and to prepare immediately plans for a retirement to be executed as soon as the Japanese moved west from the vicinity of An-Ping-Ho:—or at once, in case the cavalry request was refused.

General Zasulich actually did neither of these—he ordered the retirement of the left flank regiment, the 22d Infantry, to the west bank of the Ai-Ho, giving up Tiger Hill and its priceless observation of the upper Yalu, where the Jap 12th Division had shown its hand (See Map 4). Col Gromov fell back early on 26 April, leaving only some infantry scouts and a few mounted scouts on the Hu-shan mountains.

To a certain extent this movement protected the flank, but did not provide the continuous and alert reconnaissance to detect and locate threats to the flank or rear of an occupied delaying position which Paragraph 737* considers mandatory.

To divert Russian attention from the obvious implication of the moves against Kintei and Kyuri Islands and An-Ping-Ho, several river craft of the Japanese Navy were employed to demonstrate in the Yalu, concurrently, opposite the Russian right flank near An-tung.

Realizing belatedly that in evacuating Tiger Hill they had given up a key-point with valuable observation of the upper Yalu Valley, a reinforced battalion of the Russian 22d Infantry recaptured it on the late afternoon of the 29th, but held it only until noon of the next day.

In the meantime, on the night of 29-30 April, the 12th Division moved north from Wiju and crossed the Yalu at An-Ping-Ho; during the day of the 30th it moved through the Hu-shan Mountains and by that evening was approaching the heights along the east bank of the Ai-Ho.

At 10 a.m. on the 30th, Russian artillery at Telegraph Hill and Ma-kou fired for some time on small groups of Japanese on the islands below, as they had done daily without return fire. On this day, however, immediately as they opened fire, a furious blast of counterbattery fire came back from concealed Japanese batteries. As a result, the Russian artillery was silenced at 11:30. Reopening at 1300, it was again silenced by vicious counterbattery in about 15 minutes, and Jap artillery fired on defensive positions about Chiu-lien-cheng all day.

This evening, the 30th, MajGen Kashtalinski, commanding the 3d Division and the Chiu-lien-cheng sector, reported the situation to Zasulich, recommending strongly an immediate retirement during darkness to the heights west of Chiu-lien-cheng, leaving nothing but outposts on the original defensive line.

General Zasulich's Chief of Staff, who had been present in Kashtalinski's sector when the terrific Japanese shelling took place, also counseled retirement to a second position the night of the 30th.

General Zasulich took this advice as evidence that his troops and commanders were lacking in morale. He replied, "The General commanding the Detachment forbids the troops to abandon their positions on any pretext whatsoever." Further, he decided to go personally to the front in Kashtalinski's sector, in the morning, in order to stimulate the courage of his troops by his presence.

THE general's decision is worth examination. If the Japanese First Army, instead of assembling before attempting to attack, had tried to force the Yalu with the advance guard on 8 April or with the leading (12th) division on the 14th, would General Zasulich have been sound in accepting a decisive battle? Probably, because at that time he would have had superior forces at the point of contact, disposed on a most advantageous position for a determined defense, with every opportunity for seriously damaging a rash and impetuous enemy by counterattack. Much additional time could thus be gained. Paragraph 738* states: "The defense on each position (in delaying action) must force the enemy to early deployment and to time-consuming preparations for battle."

For several reasons the General's decision to stay in position and accept battle at *this* time, knowing the situation as he did on the night of 30 April, was unsound. The threat of envelopment by the force moving via An-Ping-Ho and the suddenly aggressive action by the Jap artillery pointed toward an imminent enemy attack in force, with a force *known to be locally superior* in numbers to the Russian. No mobile troops (cavalry) were watching the north flank to give early warning of envelopment. A withdrawal from close action, in the event of a Japanese morning attack, might well have to be effected in daylight—a dangerous operation. Preparations for such a withdrawal had not been made. No rear position was yet prepared, no routes were designated, no covering force was designated, nor was ground for the latter picked.

It must be borne in mind that as stated in Paragraph 738*, "The situation may, however, require a strong resistance on some position, or even a counterattack in order to accomplish the delaying

mission." This, however, is dependent upon the time of delay which must be achieved, and the space in which the delaying commander may operate.

In view of these considerations, determined defense was apparently unnecessary in this case.

The commander had at least 100 miles of mountainous country traversed only by one main road, through which he could readily delay in successive positions, and the higher commander had ordered him to evade decisive action with superior forces.

Why, then, did General Zasulich make the fateful decision to stand and fight? In his defense it must be said that the unsound command set-up previously mentioned was instrumental. The Viceroy, Admiral Alexeieff, knew that while four months' delay of the Japanese First Army would permit concentration of the Russian Army, a retirement from the Yalu prior to that concentration would jeopardize Port Arthur and the remnants of the fleet. So, although no actual change was made in Kuropatkin's orders to the Eastern Detachment, as quoted earlier, Kuropatkin and Zasulich were given to understand that Alexeieff expected them to exact the maximum possible delay at the Yalu.

This did not, however, excuse Zasulich from the exercise of sound military judgment in his operations. Like most other European soldiers of that time he had a low regard for the combat ability of the as yet "uncivilized" Japanese. Then, too, he was a typical old soldier, impressed with the citations to his many earlier decorations. Upon receiving his orders for the Eastern Detachment to execute this delaying mission, he remarked: "His Majesty has made me a Knight of the Order of Saint George, and I do not retreat." Even though the Detachment was for the most part disposed for a wide front, mobile delaying action—by personal direction of the Army commander, Kuropatkin—we now see Zasulich deciding to use this disposition for a determined defense of the Yalu River at Chiu-lien-cheng!

(Second and last installment of "Withdrawal from the Yalu" will appear in the December GAZETTE.***)***

Battalion on Iwo

(Continued from page 29)

over again for the war-weary marines of the 3d Battalion.

If ever there was an outfit ready for battle, it was this battalion as its men filed aboard ship to take the Iwo Jima cruise. They wanted to kill Japs! They got their chance.

When the Fourth and Fifth Marine Divisions moved onto the black, volcanic beach on Iwo's southeast coast, Chambers' battalion was assigned the extreme right flank position, an unpleasant prospect in any operation but, in this case, one which looked like organizational suicide.

It is an unfortunate but painfully true fact that in any amphibious assault there must be a flank. The men on that flank are exposed to anything the enemy wants to throw at them. They have no protection from screening friendly forces. They have nothing but the weapons they carry with which to fight off enemy fire. They are in an unenviable spot.

TO the right of Iwo's Blue Beach (over which the 3d Battalion made its assault) lay high rocky hills offering concealment for any number of Jap troops with machine guns, rifles and mortars. What Colonel Chambers' men met when they crossed that beach was simply the most withering, vicious flanking fire imaginable. That any of them got through it at all is one of the many apparent miracles of the battle for Iwo.

The plan called for the battalion to hit the beach in column of companies, I Company going in first to anchor its flank on the beach and swing to the right for the projected advance to the north. Companies K and L were to follow, advancing inland for a couple of hundred yards to take up positions at I Company's right.

I Company, commanded by Capt Elwyn W. Woods of Mountain Grove, Mo., made it ashore, but, in the confusion resulting from the murderous Japanese shelling and the powerful surf which battered the Iwo beaches, the other companies landed several hundred yards down the beach, in another unit's sector. But the well-trained marines of those two companies lost no time in moving to their assigned positions to the left of Woods' lines.

When the battalion was finally in position for the assault to the north, Chambers began to take stock of his outfit. His radio blared bad news with agonizing regularity. Almost before the battle had started, the colonel learned that K Company's leader, Capt Tom Witherspoon of Lexington, Ky., had taken a shell fragment in the shoulder which would put him out of action for good; that most of Witherspoon's company officers had similarly become casualties (before the day was out, all of them were gone); that Capt Woods had also been evacuated.

(Woods was removed to a hospital on Guam, but as soon as he was back on his feet, although under no compulsion to do so, he reported back to the battalion on Iwo. He served as a member of the battalion staff during the last five days of the campaign.)

In the battalion command post, the situation was

no better. The unceasing artillery and the soul-searing screech of mortar shells were of an intensity calculated to drive lesser men to gibbering insanity. There were no mental crackups but the Jap shells took their toll, nonetheless.

Capt Sam Pitetti of Rillton, Pa., killed in action. Lt John M. Fogarty of Worcester, Mass., and WO Braxton E. Henderson of Coral Gables, Fla., supply officers, wounded and evacuated. These were a few of the losses to the battalion staff in those first few hours of the inferno of death that was Iwo Jima on D day.

In addition, LtCol James Taul of Lexington, Ky., the executive officer, had been ordered to assume command of another battalion of the 25th which had lost both its CO and its exec. And Capt Hugh Breakenridge of Waterloo, Ia., the assistant operations officer, had gone forward to take command of Witherspoon's company. (Breakenridge was subsequently killed.)

With his battalion shot to pieces but not demoralized, Chambers gave orders to advance. Why, you may wonder, didn't he hold fast until a reorganization could be effected? That would have been preferable but it happened that it also would have been suicidal.

To the battalion's front lay high ground from which the Jap defenders had been driven by the pre-invasion naval bombardment. If that ground were not seized before nightfall, it was a foregone conclusion that it would be retaken by the Nipponese during the night. That done, the task of killing off or driving into the sea every member of Col Pat Lanigan's 25th Marines would have been painfully simple.

This would have isolated the remainder of the division and likely resulted in the annihilation of which Japanese battle orders so fondly speak. The Fifth Division, which had stormed across the southern end of the island clear to the opposite shore, would then have been cut off from all possibility of supply or reinforcement.

The victory on Iwo Jima depended upon the ability of the pitifully exposed and riddled 3d Battalion to take that ground!

REFUSING to face what appeared to be obvious facts, Chambers gave the order to "advance and take the high ground to your front." At least, that's the way in which he would have phrased it if he had had time to write out an operations order. But Jumping Joe just grabbed a radio-phone and said, "Get the hell up there before those Japs get wise and grab that ground themselves."

He received no murmurs of dissent in reply. No company commander called back that his outfit was too shot up to go forward. And, under one of the most vicious and terrifying artillery, mortar and rocket barrages in the history of modern warfare, those men moved across the open sand and took the ground. There was no cover, no concealment. They were in the open, plainly visible to the Japanese defenders, like targets in a shooting gallery where you pay your money and pick them off at your leisure.

A good many of the men didn't get all the way to the objective. But when night fell on D day, the 3d Bat was dug in, prepared to resist any attempt by the enemy to retake the area.

And the turning point in the bloodiest engagement of the Pacific war, which came almost before the battle was well under way, had passed.

Heroes in that initial drive were a dime a dozen. Ask Jim Headley about it and he'll tell you that he saw "so many acts of courage and bravery that it's almost impossible to recall them all."

"They died so fast," Jim goes on, "that the whole business of heroes and death is a little mixed up in my mind. You'd see a man do something almost unbelievable and a minute later you'd see him die. It's pretty hard to pick out any outstanding man or men."

Although they had been on the line less than 24 hours, the men of the 3d Bat, in consideration of the tremendous pasting they had taken, were relieved at one o'clock of the morning following D day. At that stage, however, relief from the lines wasn't the blessed respite from death and danger that it sometimes can be. There was no place on Iwo Jima where men could be safe from enemy shell-fire.

So Joe Chambers reorganized what was left of his battalion under fire, and the men dug in and sat the day out. On the afternoon of D plus 2, they returned to find that the hell they had encountered two days before hadn't abated appreciably.

Shortly after the 3d had returned to action, a bullet smashed into Joe Chambers' chest and punctured his right lung. Only immediate medical attention and a magnificent constitution kept the battalion's leader alive. He was evacuated almost immediately to a ship in the anchorage.

For days, rumors covered the island. "Chambers died aboard ship." "Chambers lasted 'til he got to Guam, then cashed in." But they were only rumors. The Japs, who certainly had good reason to wish for the West Virginia colonel's death, couldn't quite swing it. Joe Chambers is alive today, convalescing in a California hospital.

And now misgivings gripped officers of other units on the island. What would the 3d Bat do without Chambers? With him they were great, but perhaps he was the only one who could keep them going.

But the doubtful ones hadn't reckoned with the slim, blond youngster who took charge when his commander fell. Thirty-two-year-old Capt Jim Headley, who looks about 25, was a reserve officer with only a little over three years' service in the

Corps. But he had what it took to lead, he had been molded in the Chambers crucible and believed in the Marine Corps' doctrine that the only reason for risking men's lives in combat was to kill the enemy and take ground.

The good-natured ex-lawyer from Cincinnati, who took charge of a unit four times the size of any he had ever led before, never faltered. And the officers and men who fought under his leadership drove ahead the same way they would have done with Chambers at the helm. And the manner in which Headley led them to final victory is known to every man in the Fourth Marine Division.

WITH every member of his depleted staff doing double or triple duty, Jim never rested, never stopped thinking about the next day, the next hour, the next minute. And the story of the 3d Battalion through the weeks that followed his rise to command is a tale of heroism and sacrifice which would be hard to match.

Typical of those who met the crisis with outstanding valor and determination is Capt James Antink, a skinny, happy-go-lucky, fast-talking Chicagoan with a pants-kicking sense of humor. Jim, who attended the University of New Mexico, married a New Mexico girl and calls Santa Fe God's country, was CO of battalion headquarters company and had never led a front-line outfit in combat.

On the morning of D plus 3, Antink found himself battalion executive officer with additional duty as operations officer, a job which ordinarily calls for a major with a captain as assistant. He rose to the occasion with the fortitude which had been ingrained in him by a man who was determined that no one of his command would ever falter in a tough spot.

Another officer who carried a double burden was Lt Bob Davis of Dallas, Texas, communications officer, who also served as the unit's intelligence officer and did an excellent job although he had never had an hour's training in intelligence work.

As the days went by and the painful, inch-by-inch progress of the divisions fighting on the bloody rock became more and more heart-breaking, the history of the 3d Battalion was enriched by hundreds of examples of unselfish bravery and devotion to duty. Cases of men exposing themselves to fire in order to tempt Jap snipers into giving away their positions became commonplace. Heroism was the normal thing, no longer awe-inspiring or even surprising.

There was Sgt Manuel Martinez of Moses, N. M., who walked erect into a cave full of trapped Nipponese. Blasting them with his automatic rifle, Martinez killed 15 and by his very audacity escaped without a scratch.

Or Pvt Delbert Maupin, a kid from Hannibal, Mo., who threw himself in front of a potato-masher grenade, taking the lethal blast himself to save his squad leader who hadn't seen the grenade fall.

Then, too, there were a couple of replacements, green kids who hadn't had the terrific build-up for this battle like the battalion's veterans, but who knew what the word *marine* meant and who caught the fever for victory of the men beside whom they fought.

It happened at the spot known to the men who fought there as Grenade Ridge. They'll tell you how Lawrence Bigler. a 19-year-old private first class from Woodsfield, Ohio, jumped to his feet and continued to pound the enemy with his automatic rifle after being mortally wounded in the stomach. When he fell, his pal, Pvt Johnnie J. Turnage of La Grange, N. C., snatched his weapon up and carried on in his place until he, too, was killed.

THAT'S the story of the 3d Battalion of the 25th Marines. Cut off from hope and doomed to inevitable annihilation, it fought ahead, inspired by a smiling lieutenant colonel who had never allowed himself to think of defeat and a tall, yellow-haired captain whose hopes and ambitions weren't tied up with death and heroism but with a wife in Cincinnati and a law practice that's missed him for too long.

It could be told in figures. The men of the battalion have been recommended for 18 Navy Crosses, six Legions of Merit, 50 Silver Stars and 150 Bronze Stars, plus a great number of lesser awards.

In the operations report it's told in cold, precise military language, the details in hundreds of yards gained and number of rounds fired.

But, in one way or another, it had to be told. For it's written in blood on the ugly, black sands of Futatsune Beach; in bone and flesh and in names on white crosses in the crowded cemetery above the beach. And it's etched with a sharp-pointed knife into the hearts of those who lived to fight again.

They won't forget.

The Navy Department reports that 703 vessels—from battleships to patrol craft—were lost during the war. Of this number 116 were lost by air attack and 53 to submarines. Fifty-three were sunk by surface vessels. Losses included: battleships, 2; aircraft carriers, 5; aircraft carriers, escort, 6; heavy cruisers, 7; light cruisers, 3; destroyers, 71; destroyer escorts, 11; submarines, 52; submarine chasers, 18; gunboats, 12; seaplane tenders, 3; motor torpedo boats, 69; tank landing ships, 41; medium landing ships, 9; smaller craft, 394.

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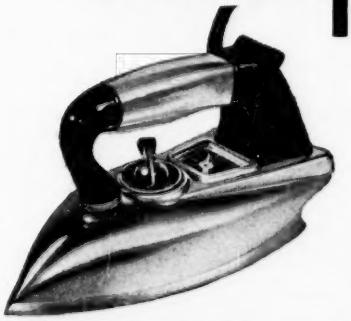

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